ARCHITECTURAL RECORD

November 1958 **11**

207 Building Types Study: Schools

165 Recent Work of Eliot Noyes

187 Eight Houses

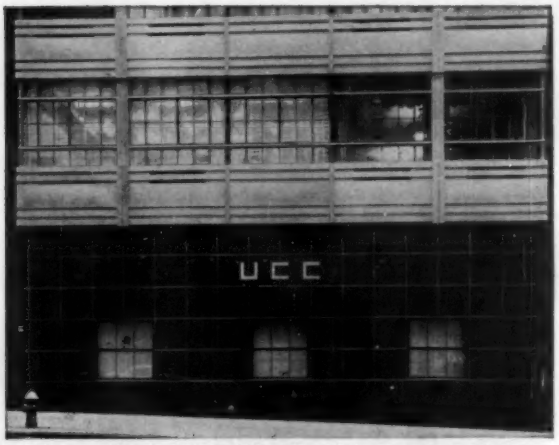
Help time-proof your designs with ARMCO Stainless Steel

New steels are born at Armco

Where beauty and durability are paramount, architects are protecting their designs against the ravages of time by specifying stainless steel. More than a quarter-century of use in architecture has proved that stainless steel's combination of beauty, strength and durability means best service at lowest ultimate cost.

Here are a few examples, ranging from 8 to 25 years old, where stainless has preserved the intrinsic beauty of the structures. Photographed within the past two months, the installations still look like new and have required only simple cleaning to maintain their attractive appearance.

Design time-defying durability and long-range economy into *your* buildings by specifying Armco Stainless Steel wherever metal must remain attractive despite weather or severe service. For detailed information on the most economical grades, finishes and sizes of stainless for your specific applications, and the names of manufacturers of stainless steel building products, write Armco Steel Corporation, 3018 Curtis Street, Middletown, Ohio.



Addition to Union Carbide Building, New York—Constructed 1932
Architects: Shreve, Lamb & Harmon

First National Bank Building, Tulsa—Constructed 1950
Architects: Carson & Lundin

The First Pennsylvania Banking and Trust Company, Philadelphia—Constructed in 1949
Architect: Howell Lewis Shay

ARMCO STEEL

ARMCO

Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation • Southwest Steel Products

ARCHITECTURAL RECORD (Vol. 124, No. 5, November 1958) is published monthly, except May 1958 when semi-monthly, by F. W. Dodge Corporation, 10 Ferry Street, Concord, N. H. **Editorial and executive offices: 119 West 40th Street, New York 18, New York**
(Western Edition)
$5.50 per year in U. S., U. S. Possessions and Canada: *Second-class mail privileges authorized at Concord, N. H.*

It pays to specify

The Hi-Density Rubber Flooring—

that's

Tougher-Textured for Longer Wear!

When you specify Goodyear Rubber Flooring, you make sure the job gets the flooring with the hi-density compounding that makes it easiest to care for, toughest to harm.

It is a fact proved in countless applications a quarter of a century old—floors in heavy-traffic areas that are still lovely today after 25 years of service.

Surely there can be no more lasting testimonial to your good judgment than to specify Goodyear Rubber for wainscoting and counter tops as well as floors on or above grade.

For there is no "or equal" when it comes to quality rubber flooring.

You'll discover this to be true in the underfoot comfort it offers, the way it hushes room sound and clatter—the perfection of its marbleization and the beauty of its colors.

Goodyear Rubber Flooring, the utmost in luxury and lasting service, is available in tiles and full 36"-wide rolls for wall, floor and counter top applications. For information and samples, address: Goodyear, Flooring Dept. W-8111, Akron 16, Ohio.

GOODYEAR
Rubber Flooring

In Tiles and Yard-Wide Rolls—
for Floors · Walls · Counter Tops

New trend to multi-story downtown motels calls for Rotary Oildraulic® Elevators

No-penthouse elevator aids building design, helps economize on construction costs

The vertical building has arrived in the motel field. As locations move downtown, toward the heart of city business activity, multi-story motels become a familiar sight.

Two outstanding mid-town motels are illustrated here. Others rise as high as six stories, often with the first two levels devoted to parking areas.

Less expensive construction

For this new trend in motels there's no elevator more practical than the Rotary Oildraulic. This modern elevator aids exterior appearance because it needs no unsightly elevator machinery penthouse. It's pushed up from below, not pulled from above . . . and the compact power unit can be located wherever convenient, often in a space that otherwise would be wasted.

Less massive (and thus more economical) elevator shaft sidewalls are used since the elevator and its load are supported by the hydraulic jack resting on the pit floor.

In other respects, too, Rotary Oildraulic Elevators are particularly suited to motel use. They're quiet, dependable, economical, with fewer moving parts and less maintenance required. Modern operatorless control systems are available, and distinctive cabs to harmonize with any interior.

Rises to 60 feet

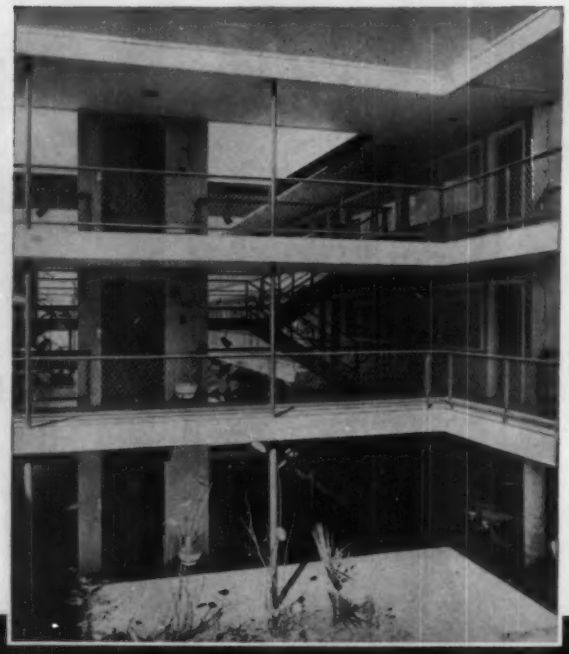
For any building to six stories, the modern oil-hydraulic elevator as perfected by Rotary Lift Company offers the finest in efficient, economical vertical transportation, with many exclusive design and operation features. Rotary Oildraulic Elevators are sold, installed and serviced by franchised elevator contractors who employ factory-trained personnel. The Rotary organization is available for assistance on elevator plans and specifications. For more information, mail the coupon or look for "Rotary Oildraulic" under "Elevators" in the yellow pages of your phone book. *See our catalog in Sweet's.*

Rotary® **Oildraulic®**

Passenger and Freight—the modern elevator for modern buildings

LEFT: Shore Drive Motel, Chicago, Illinois. ARCHITECT: A. Epstein & Sons, Inc. GENERAL CONTRACTOR: Welso Construction Co. Rotary Oildraulic Elevators sold and installed by Gallaher and Speck, Inc., Chicago.

RIGHT: Motel de Ville, New Orleans, Louisiana. ARCHITECT: Charles R. Colbert. GENERAL CONTRACTOR: Shelby Construction Co., Inc. Rotary Oildraulic Elevators sold and installed by Louisiana Elevator Corp., New Orleans.



Elevators

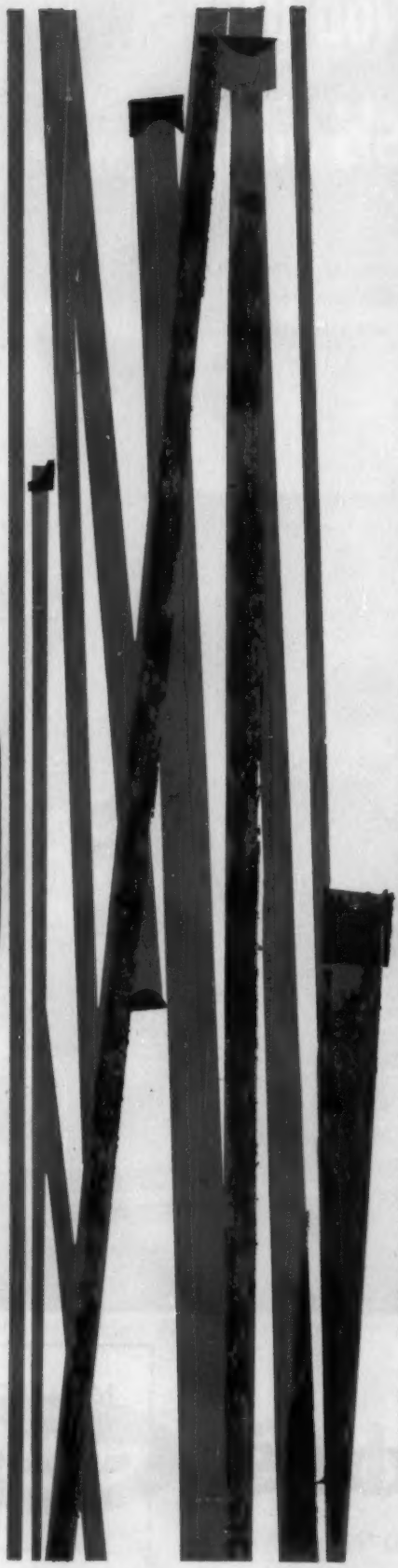
ROTARY LIFT COMPANY
Division of Dover Corporation
Memphis, Tenn.—Chatham, Ontario
First name in oil-hydraulic passenger and freight elevators—industrial lifting devices—auto lifts.

MAIL FOR DATA FILE

Rotary Lift Company
1106 Kentucky, Memphis 2, Tenn.
Please send data file on passenger ☐ freight ☐ elevators to:

Name_____

Address_____



4-D

WROUGHT IRON PIPE

SOIL WASTE VENTS DOWN-SPOUTS

low maintenance for the owner
no call-backs for the architect
less labor for the contractor

4-D Wrought Iron Pipe is an aggressive deterrent to corrosion failures in drainage systems. The permanence and durability of 4-D Wrought Iron Pipe increase the value of any building. 4-D's piping permanence is especially important where inaccessibility makes replacement and repair a major expenditure for the owner.

Low cost per-year-of-service beats low initial cost, every time.

To save space, many architects favor Durham Systems with 4-D Wrought Iron. Such systems eliminate weak and bulky lead-wiped joints, and enable longer runs without damage from building settlement, vibration, or wide temperature variations. And 4-D Wrought Iron Pipe meets building code requirements.

4-D's availability in long random lengths results in fewer joints, fewer supports, and less labor costs. And there's less weight involved with 4-D Wrought Iron Pipe. When corrosion resistance and strength are factors, 4-D's cost story is easier to substantiate than that of clog-prone, extra-heavy piping materials.

Ultimate service life of any piping material in any piping service depends upon its quality and its composition. Thousands of non-rusting iron silicate fibers, uniformly distributed in a highly refined base metal, make 4-D unique in its ability to resist corrosion. There's nothing finer. There's no "or equal." And due to its microscopically rougher surface, which is accentuated by pickling, 4-D Wrought Iron takes up to a 50% tighter, heavier galvanized coating than other metals.

4-D represents the most significant development in the history of wrought iron metallurgy. It was achieved by substantially increasing the deoxidation of the base metal, slightly increasing the phosphorous content and using a more siliceous iron silicate. Result is increased corrosion resistance, improved physical and mechanical properties.

Need proof? Write for 4-D Wrought Iron literature and test results as the first step in giving your client a trouble-free drainage system. A. M. Byers Company, Clark Building, Pittsburgh 22, Pennsylvania.

BYERS 4-D WROUGHT IRON

ARCHITECTURAL RECORD

November 1958

CONSTRUCTION OUTLOOK FOR *1959*

"Onward and Upward: Growth Trends Resumed."
The annual F. W. Dodge Corporation analysis of future construction potential, by Thomas S. Holden, with the collaboration of George Cline Smith, Clyde Shute and Edwin W. Magee Jr.

THE RECORD REPORTS: *Perspectives 9*

A Record Special Report: Toronto City Hall Competition *10*

Architecture Abroad: UNESCO Opens Paris Headquarters *14*

Buildings in the News 20

Meetings and Miscellany 25

A Washington Report by Ernest Mickel *32*

News from Canada by John Caulfield Smith *36*

Washington Topics by Ernest Mickel *52*

Construction Cost Indexes 56

Required Reading 60

Calendar and Office Notes 342

Current Trends in Construction 404

RECENT WORK OF ELIOT NOYES *165*

HOSPITAL BASED ON RESEARCH

Davis Medical Foundation
Marion, Ind. Harry Weese, Bruce Adams, John van der Meulen, Architects *181*

EIGHT HOUSES DESIGNED AND BUILT WITH BUDGET IN MIND *187*

1. Venice, Fla. Paul Rudolph, Architect *188*
2. Litchfield, Conn. Thomas C. Babbitt, Architect *190*
3. Raleigh, N. C. George Matsumoto, Architect *192*
4. Weston, Conn. Olindo Grossi, Architect *194*
5. St. Petersburg, Fla. Mark Hampton, Architect *196*
6. Weston, Conn. Designers & Builders, Architects *198*
7. Berkeley, Calif. Henry Hill, Architect *200*
8. Orange, Conn. Richard B. McCurdy, Architect *202*

A LARGE MODULE FOR MOTOR COMPANY GENERAL OFFICES

Ford Division, Ford Motor Company. General Office Building, Dearborn, Mich. Welton Becket and Associates, Architects *203*

BUILDING TYPES STUDY *264*: *Schools*

Introduction 207

Planning for Student Dining by Charles W. Brubaker *208*

East Grand Rapids Jr. High School Mich. Perkins & Will, Architects *211*

Regional District No. 8 Jr.-Sr. High School
Hebron, Conn. Louis J. Drakos, Architect *213*

Underwood Elementary School Andrews, Tex. Caudill, Rowlett and Scott, Architects *216*

Southgate Elementary School Colonie, N. Y. Office of Henry L. Blatner, Architect *220*

Lillian C. Schmitt Elementary School
Columbus, Ind. Harry Weese & Associates, Architects *223*

Warson Woods Elementary School
Warson Woods, Mo. Hellmuth, Obata & Kassabaum, Architects
Caudill, Rowlett & Scott, Assoc. Architects *226*

Greenfield High School Greenfield, Mass. James A. Britten, Architect *228*

ARCHITECTURAL ENGINEERING

Introduction 231

Lighting: A Key to Spatial Character by John Flynn & Wilber Riddle, A.I.A. *232*

TECHNICAL ROUNDUP *243*

PRODUCT REPORTS *244*

TIME-SAVER STANDARDS: *Public Swimming Pools: 4, 5, 6 & 7 247*

OFFICE LITERATURE *292*

INDEX TO ADVERTISING *406*

Cover:

Photograph and plan of the Warson Woods Elementary School, Warson Woods, Mo. Hellmuth, Obata & Kassabaum, Architects. Caudill, Rowlett & Scott, Assoc. Architects. Piaget Studio photo

ARCHITECTURAL RECORD
November 1958 Vol. 124 No. 5

Copyright 1958
by F. W. Dodge Corporation,
with all rights reserved.

ARCHITECTURAL RECORD
(combined with
AMERICAN ARCHITECT and
ARCHITECTURE)
is published monthly,
except May 1958
when semi-monthly,
by F. W. Dodge Corporation,
10 Ferry Street,
Concord, New Hampshire.
Editorial and executive offices:
119 West 40th Street
New York 18, New York.
Western editorial office,
2877 Shasta Road,
Berkeley 8, California.

Coming in the Record

BUILDING TYPES STUDY: RELIGIOUS BUILDINGS

Perhaps no other building type presents so exacting a challenge to architects in the fulfillment of emotional as well as physical requirements of a program. This study will feature a group of churches and synagogues which constitute notable response to this challenge.

NEW WORK OF A MASTER BUILDER

Italy's Pier Luigi Nervi continues to make poetry of honest structures designed for the economical achievement of a client's purpose. Three major new projects will show the latest results of Nervi's application of his philosophy of "the art of building correctly."

OFFICES: FLEXIBLE, FUNCTIONAL, ELEGANT

New York's garment district has a new office building which is especially interesting for its attention to the provision of highly flexible and functional working space which also was to be—and is—pleasantly elegant. An unusual fenestration scheme is part of the story. Architects for the Deering-Milliken Building are Carson and Lundin; interior design by Knoll Associates.

OTHER F. W. DODGE SERVICES: Dodge Reports—Dodge Construction Statistics—Sweet's Catalog Services—Dodge Books—Dodge Mailing Service—The Modern Hospital—The Nation's Schools—College and University Business—Hospital Purchasing File—Chicago Construction News—Daily Pacific Builder—The Daily Journal (Denver)—Real Estate Record & Builders Guide.

Members of Audit Bureau of Circulations and Associated Business Publications. ARCHITECTURAL RECORD is indexed in Art Index, Industrial Arts Index and Engineering Index.

Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.

Subscription prices: Published monthly except May 1958 when semimonthly. U. S., U. S. Possessions and Canada: $5.50 per year; other Western Hemisphere countries, Spain, to those who by title are architects and engineers, $9.00 per year. Single copy price except Mid-May 1958 issue $2.00; Mid-May 1958 issue $2.95. Beyond Western Hemisphere, excluding Spain, to those who by title are architects and engineers, $9.00 per year for 12 monthly issues not including Mid-May 1958 issue. Subscriptions from all other outside U. S., U. S. Possessions and Canada for 12 monthly issues, not including Mid-May issue, $24.00 per year. Change of address: subscribers are requested to furnish both the old and new address, sending if possible stencil impression from magazine wrapper, and to include city delivery zone number, where such is used, for the new address. Allow four weeks for change.

Staff of Architectural Record

EDITOR
Emerson Goble

CONSULTING EDITOR
John E. Burchard

SENIOR EDITORS
James S. Hornbeck, A.I.A., *Features*
William Dudley Hunt, Jr., A.I.A.
Elisabeth Kendall Thompson, A.I.A., *West*

ASSOCIATE EDITORS
Robert E. Fischer, *Engineering*
Florence A. van Wyck, *Production*
Jeanne M. Davern, *Assistant to the Editor*
Herbert L. Smith, Jr., A.I.A., *Houses*
Mildred F. Schmertz, *Design*
John T. Weeks
Grace M. Anderson
William Henry

CONTRIBUTING EDITORS
Ernest Mickel, *Washington*
Dan Street, *Washington*
John Caulfield Smith, M.R.A.I.C., *Canada*

ASSISTANT EDITORS
Margaret R. Fuerst, *Engineering*

EDITORIAL ASSISTANTS
Helen C. Manning, *Production*
Pamela C. Forcey

DESIGN
Eugene H. Hawley, *Director*
Richard P. Kluga
Judith Mullock

CONSULTANTS
Thomas S. Holden, *Industry Relations*
George Cline Smith, *Economics*
Clyde Shute, *Statistical*
Clifford Dunnels, Jr., *Field Research*
Daniel J. Howe, Jr., *Public Relations*
Sigman-Ward, *Drafting*

PUBLISHING DIRECTOR
H. Judd Payne

GENERAL MANAGER
Robert F. Marshall

CIRCULATION MANAGER
Marshall T. Ginn

Officers of F. W. Dodge Corporation

CHAIRMAN OF THE BOARD
James McV. Breed

VICE CHAIRMAN OF THE BOARD
Paul Abbott, Thomas S. Holden

PRESIDENT
Howard Barringer

EXECUTIVE VICE PRESIDENTS
Irving W. Hadsell, Chauncey L. Williams

VICE PRESIDENT AND TREASURER
Howard M. Thompson

VICE PRESIDENTS
Julius T. Little, Robert F. Marshall,
T. Oliver Morgan, O. O. Paulsell,
H. Judd Payne, George Cline Smith

REGIONAL VICE PRESIDENTS
Carl S. Bennett, Clinton C. Bennett,
Ralph M. Hairston, Roy J. Hard,
Arthur D. Prior, Richard H. Ray,
William H. Hatch

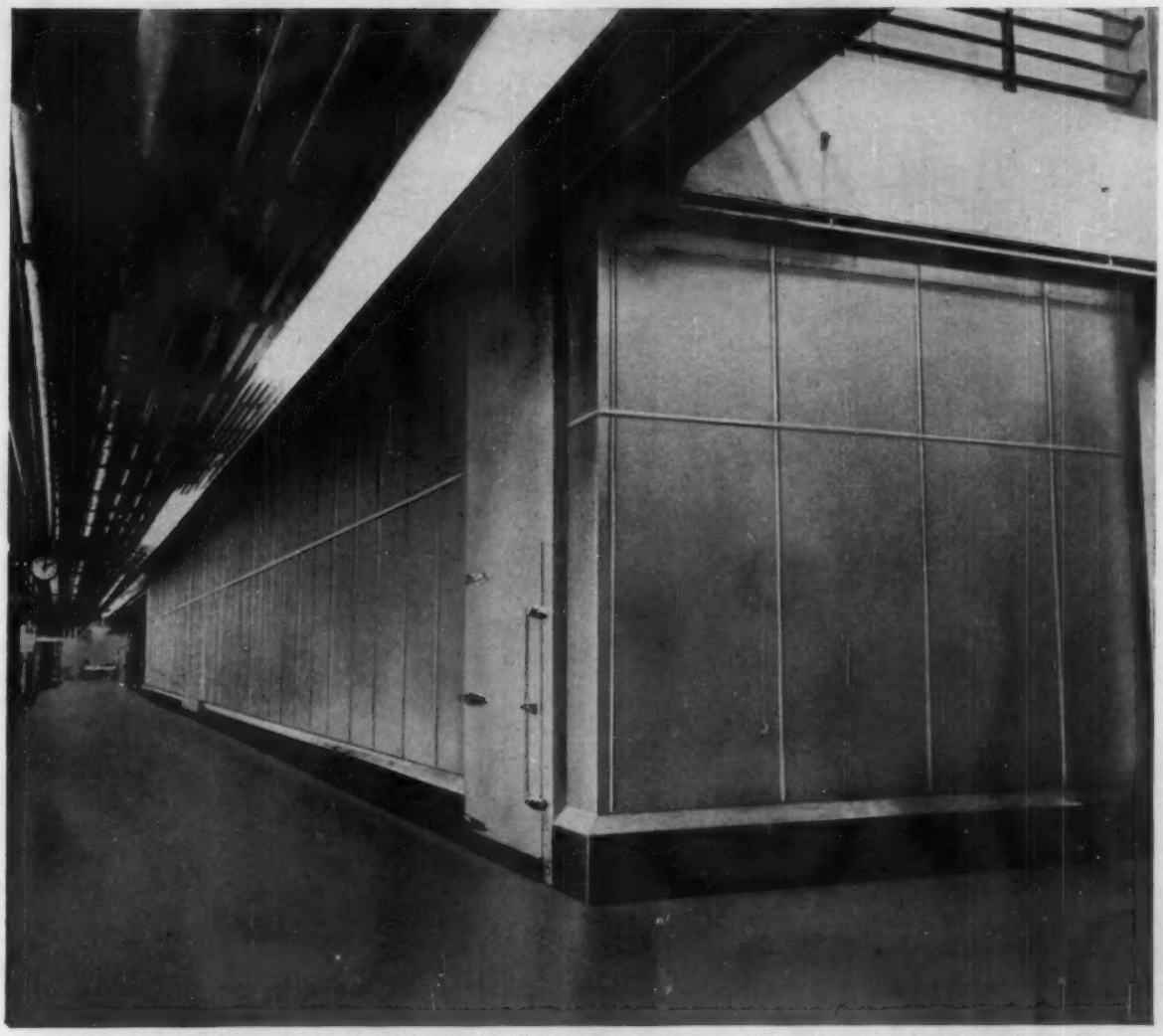
ASSISTANT VICE PRESIDENT AND COMPTROLLER
Edwin H. Freed

ASSISTANT VICE PRESIDENTS
Walter F. DeSaix, Clifford G. Dunnells, Jr.,
Gault Eastman, Clyde Shute, Marc Wayne

SECRETARY
Sanford D. Stockton, Jr.

ASSISTANT SECRETARIES
William C. Breed, Jr., George W. Morgan

ASSISTANT TREASURER
Irving B. Satin



FREEZER STORAGE ROOM of Armorply at the plant of National Biscuit Company, Chicago, illustrates how Armorply combines function with attractive appearance, even in industrial applications. This room manufactured by Annapolis Yacht Yard, Inc.

This sub-zero storage can be erected, expanded, or moved in hours

When you specify freezer rooms made of Armorply metal-faced plywood panels, you provide virtually unlimited flexibility for future expansion. What is equally important, installation costs are low, and maintenance cost is practically non-existent.

Armorply never needs painting, has high impact strength, will not absorb odors, and affords vapor- and verminproof protection for produce, frozen foods, meats. Capable of maintaining temperatures down to -100°F, Armorply rooms can be added indoors or outdoors under a protective roof.

Armorply rooms—made in easy-to-assemble sections—are available from Freezer Box Division, Annapolis Yacht Yard, Annapolis, Maryland.

WELDWOOD® Armorply®

METAL-CLAD PLYWOOD PRODUCT OF UNITED STATES PLYWOOD CORPORATION

Weldwood Armorply also is available for other architectural applications such as soffits, pedestal floor systems, curtain wall constructions, fascia panels and shielded rooms. Many standard constructions utilizing a variety of metals, plastics and plywoods can be furnished.

Send coupon for details and free Armorply sample.

United States Plywood Corporation
55 West 44th Street, New York 36, N. Y. AR 11-58

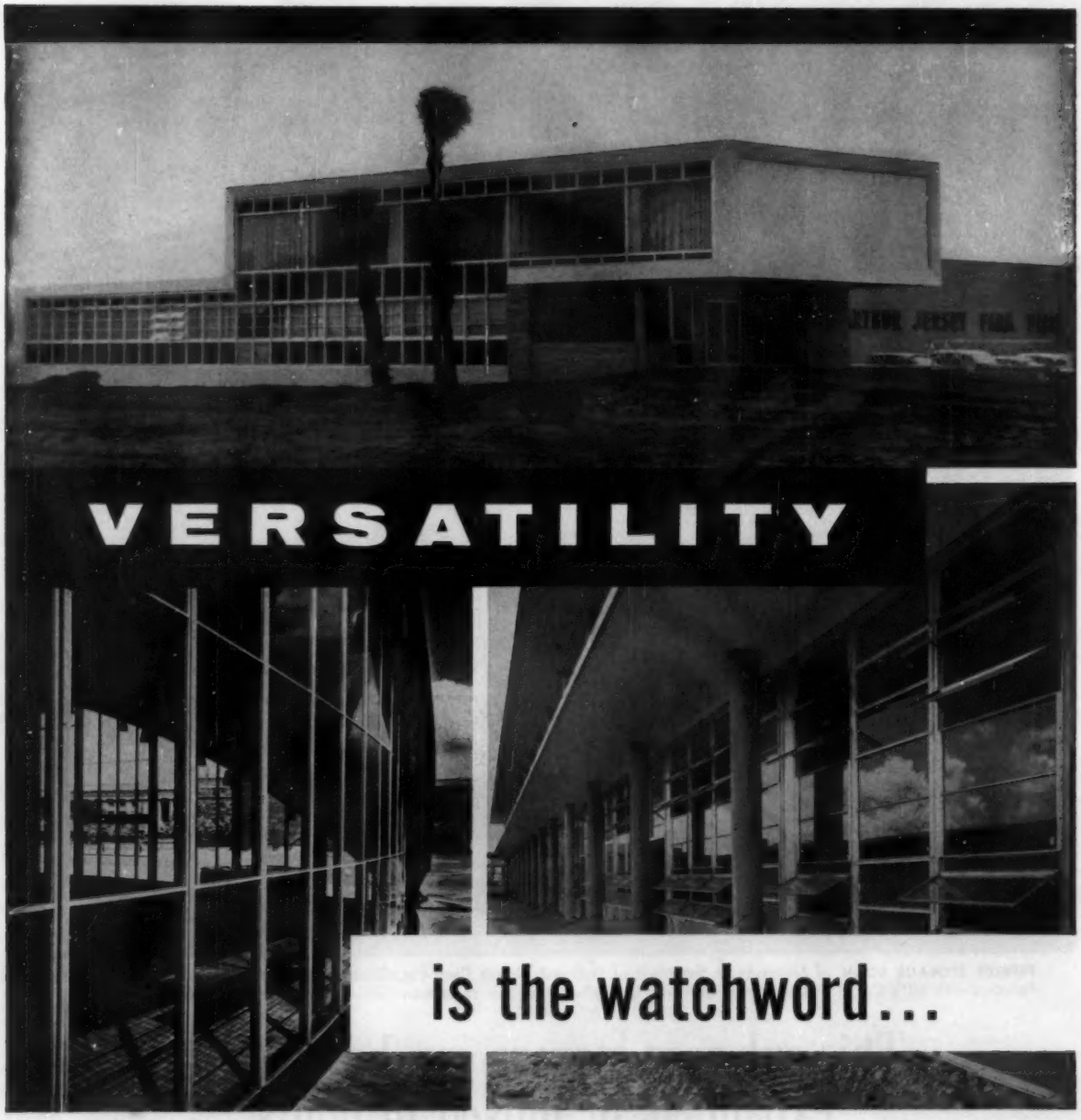
I would like to know more about Weldwood Armorply modules for freezer rooms, as manufactured by Annapolis Yacht Yard. Please send literature and free Armorply sample.

Name.....

Firm.....

Address.....

City.....Zone.....State.....



VERSATILITY

is the watchword...

with WARE curtain·walls

Imaginative—unusual—conventional . . . whatever curtain-wall treatment you are planning next, Ware engineers are equipped to help you meet the most challenging requirements. Versatility is the watchword at Ware, with special emphasis on new design features that cut installation time and assure weathertightness. *Why not send for our new Curtain-Wall brochure, today? Please write Dept. AR-11.*

MEMBER

Aluminum **WARE** *Windows*

WARE Laboratories, Inc., 3700 N.W. 25th St., Miami, Fla.

A PREVIEW OF
FUTURE CONSTRUCTION
POTENTIALS WITH
PARTICULAR REFERENCE
TO THE YEAR **1959**

ONWARD & UPWARD: GROWTH TRENDS RESUMED

By *THOMAS S. HOLDEN, Vice Chairman; with the collaboration of*
GEORGE CLINE SMITH, Vice President and Economist,
CLYDE SHUTE, Assistant Vice President and
Director of Statistical Policy,
EDWIN W. MAGEE, JR., Associate Economist

F. W. DODGE CORPORATION

ARCHITECTURAL RECORD

NOVEMBER 1958

ONWARD & UPWARD: GROWTH TRENDS RESUMED

By *THOMAS S. HOLDEN, Vice Chairman; with the collaboration of*
GEORGE CLINE SMITH, Vice President and Economist,
CLYDE SHUTE, Assistant Vice President and
Director of Statistical Policy,
EDWIN W. MAGEE, JR., Associate Economist

THE RECESSION of 1958 has vanished as quickly as it came. True, some traces remain, and some problems are likely to persist, but business activity in general and construction activity in particular seem to be well on their way toward resuming the growth trends that have characterized the postwar period.

The slowdown in construction contracts that took place in late 1957 and early 1958 was comparatively short-lived. It was not sufficient in depth or duration to prevent 1958 from maintaining the unbroken history of increases in dollar volume every year since 1945. Total contracts for 1958 will set a new all-time peak, marking the fourteenth consecutive increase.

While the recovery in construction contracts that began in the Spring was aided in measurable degree by government action, private construction contracts held their own very well, and they will probably close the year with a slight dollar increase over 1957. Even private nonfarm dwelling unit starts, about which gloomy predictions were being made a few months back, will show a gratifying gain at the year's end.

Construction in 1958 has been a major sustaining force at a time when such important segments of the economy as automobile and steel production were at relatively low levels, when the Federal Reserve index of industrial production was taking a dip that looked almost like a nose dive, and when plant and equipment expenditures were markedly down and there was much talk of surplus manufacturing capacity. The year's construction record proved once more that growth factors dominate American economic trends.

Basic growth factors are, of course, population and the people's expanding wants, backed by increased incomes. The Census Bureau estimates that total U.S. population passed the 175,000,000 mark in mid-October, up 2,900,000 in 12 months. Total disposable personal income moved moderately upward in 1958, and gross farm income reached record levels. The net population gain was accompanied, in the first half of 1958, by small drops in birth and marriage rates that appear insufficient to signify a major change of trend. Total personal consumption expenditures moved ahead to a new record total.

Housing progress was hampered in late 1957 and early 1958 by tight money. Congress acted early in 1958 to ease the situation, but with palliative measures only. It permitted a modest interest rate increase on VA-insured loans and it authorized an increase in purchases of insured loans by FNMA. As a result, the trend of housing activity turned upward in April. These legislative measures appear to have been mere shots in the arm, and by October, their stimulating effects had begun to taper off. Proposals tending to broaden the lending scope of conventional mortgages failed to receive favorable action. Housing demand continues to call for a higher level of new nonfarm housing starts, regardless of temporary financing difficulties.

URBAN RENEWAL

On one big national program, substantial progress was made. In late August, Housing Administrator Albert M. Cole reported on urban renewal and said that, through the end of June, the number of localities with approved workable programs had jumped to 546, more than twice the number a year earlier.

The cities and towns which had embarked on long-range plans to end slums and blight comprise about half the nation's urban population; they are located in 42 of the 49 states. They include 390 cities and towns with a population of 2500 and over. Seventeen of the 18 cities with a 1950 population of more than half a million have approved workable programs; the eighteenth one, Houston, was reported as having a program in preparation.

In terms of actual construction, this program has barely started. As of August 31, 1958, the cumulative record for Federal capital grant reservations for urban renewal projects was as follows (in round figures): execution competed—$3,000,000; projects approved for execution—$600,000,000; projects approved for planning—$580,000,000; general neighborhood renewal planning—$11,000,000. Of course, these figures do not in any way indicate anticipated construction expenditures. They denote anticipated Federal contributions toward acquisition of blighted property scheduled for rehabilitation or redevelopment. Presumably construction expenditures for renewal programs will run many times these figures. Federal grants are made for up to one half of the general planning work for local renewal projects, and for up to two thirds of any deficits incurred by local governments in acquiring and reselling blighted property for approved projects.

The Administration requested of Congress additional authorization for urban renewal grants to a total of $250,000,000 for fiscal 1959 (somewhat under the total of grants reserved in fiscal 1958). Congress failed to act as requested and there was some evidence of opposition to enlargement of this program. The Urban Renewal Administration is carrying on with $154,000,000 in unused authorizations, expecting to ask for additional funds when the new Congress convenes in January 1959. At any rate, present grant reservations and those definitely in sight will be generative of many large new construction projects for some time to come. This program is the bold beginning of the nationwide job of renovating downtown to meet the competition of the suburbs.

HEAVY ENGINEERING

Congress was more prompt to act upon and more generous to the highway program. The Federal Highway Act of 1958 authorized $600 million in Federal-aid funds in addition to the existing authorizations for the long-range national program; this additional amount to be spent in 1958 and 1959. According to estimates of the Bureau of Public Roads released August 18, total expenditures (not contracts) for highway construction this year will amount to $5138 million, next year to $5715 million, and increased amounts thereafter. This huge continuing program will be a strong construction market factor for a decade ahead.

Demands for other heavy engineering works continue unabated. Nor does there seem to be any letup in demands for schools, hospitals, churches, and other community facilities. The need for expanded electric power facilities continues strong and at some stage there will be rising demand for new manufacturing plants. This will arise from three chief factors: (a) continually increasing consumer demand; (b) the need for replacement of older facilities; and (c) the development of more advanced techniques that promise lower production costs. Suburban shopping centers will increase, stimulated by further population movements, and improved downtown shopping facilities will follow a parallel trend. Other commercial building types will be required as population grows and business expands.

GROWING PAINS

Sustained growth involves many continuing problems, inflation being a major example. Federal deficits and the wage-price spiral both tend to push prices upward, inevitably involving rises in construction costs. It is possible, however, that the full strength of current inflationary forces may not be felt in 1959, while there is still some slack to be taken up in productive capacity and in employment.

A major effect of inflation is the stimulation of extravagant consumer spending and speculation, to the serious disadvantage of saving and to the discouragement of investment. The recent rise in stock market prices was widely interpreted as being principally caused by expectation of continued inflation. The unusual situation arose in which common stocks were priced to yield considerably less than high grade bonds. Persistence of these conditions leads to tight money and high interest rates, which could act to curb seriously the financing of most types of private and public construction.

Essential capital requirements of our potentially expanding economy are simply tremendous. Besides the needs for industrial expansion, for adequate housing and for commercial buildings, there are also needs on the part of state and local governments for funds to provide schools, hospitals, community facil-

TABLE 1: ESTIMATED DOLLAR VOLUME OF CONSTRUCTION CONTRACTS

(48 states; figures in millions of dollars)

CLASSIFICATION	YEAR 1958 ESTIMATE*	YEAR 1959 ESTIMATE	PERCENTAGE CHANGE†
TOTAL PRIVATE AND PUBLIC OWNERSHIP			
Nonresidential	11,070	11,630	+ 5
Residential	14,100	14,250	+ 1
Total Building	**25,170**	**25,880**	**+ 3**
Public Works and Utilities	9,500	9,690	+ 2
Total Construction	**34,670**	**35,570**	**+ 3**
PRIVATE OWNERSHIP	20,940	21,620	+ 3
PUBLIC OWNERSHIP	13,730	13,950	+ 2

TABLE 2: ESTIMATED PHYSICAL VOLUME OF BUILDING

(48 states; figures in millions of sq ft)

BUILDING CLASSIFICATION	YEAR 1958 ESTIMATE*	YEAR 1959 ESTIMATE	PERCENTAGE CHANGE†
Commercial	237	245	+ 3
Manufacturing	123	140	+ 14
Educational and Science	207	212	+ 2
Hospitals and Institutions	40	42	+ 5
Public	35	32	— 9
Religious	49	51	+ 4
Social and Recreational	39	37	— 5
Miscellaneous Nonresidential	49	50	+ 2
Total Nonresidential	**779**	**809**	**+ 4**
Residential	1280	1255	— 2
Total Building	**2059**	**2064**	**0**
New Nonfarm Dwelling Unit Starts (BLS Basis)	1,160,000	1,160,000	0

**Eight months actual, last four months estimated. †Percentages rounded to nearest whole number*

ities, local shares of urban renewal costs, and state government shares of the national highway program. Added to these are the almost insatiable demands of the Federal government for an enlarged defense program, for funding current and possibly future deficits, and for carrying on the Treasury's huge refunding operations. Capital markets are apt to be very tight from time to time.

Importantly involved in the inflation threat is the wage-price spiral. This is one manifestation of the threat to economic balance posed by the monopolistic tendencies of organized labor. There is a widespread belief that labor's growing political power, unless curbed by appropriate legislation, could quite possibly put a more effective brake on the nation's expansion potentials than any other thing.

These dangers are not to be viewed with undue alarm. They must be anticipated and they must be met as crises arise. One must believe in the capacity of the American people to solve such problems. It is necessary to give sober thought to them lest we be carried away with uncritical enthusiasm by the very real expansion potential that does exist and by the resilience, the strength and vigor of our economy. This year's strong rebound from the setback of the early months has been a very heartening experience.

It is generally conceded that the economy has shown an upward trend since last April. Since that time many of the important business indexes have registered improvement, some in quite substantial degree. The third quarter showed marked acceleration in housing starts, construction contracts, industrial production (notably steel, after months of operation at very low levels), retail trade, and other important activities. First quarter gloom has given way to widespread optimism; soberly expressed in every day's business news, more dramatically displayed in recent heightened stock market activity. There are many favorable factors in the outlook for general business and construction in 1959.

ECONOMISTS' OPINIONS ABOUT 1959

The outlook for construction in the months ahead is of course closely related to the prospects for general business activity. A highly valuable look ahead is provided by the annual Dodge survey of the opinions of leading economists.

As reported in our review of this survey, the economists are overwhelmingly optimistic about 1959. This is in sharp contrast to their feeling about 1958, as reflected in last year's survey. While there is some difference of opinion about the degree of upward movement, practically all of the 212 economists participating in the survey think that gross national product and industrial production will rise next year. Their median forecasts indicate a rise of four and a half per cent in GNP and five per cent in the Federal Reserve index of industrial production during 1959.

The economists also think that wage rates and prices, both wholesale and consumer, will go up next year. They expect modest increases in expenditures for new construction and for new plant and equipment, but their opinions are quite mixed on the outlook for private nonfarm housing starts; on the average, they expect starts next year to be at approximately 1,100,000.

There is no question that the economists think the recession is over, and that the outlook for 1959 is good, although they point to some persistent problems facing the economy in 1959 and later. These are noted in the review of the economists' survey which appears following our own statement of the construction outlook.

CONSTRUCTION IN 1959

As we have said, the construction industry began to recover early in 1958 from the recession, tending to lead the way as it often has in the past. Construction contracts in mid-1958 reached levels that were not only the highest in history, but in some months were far ahead of previous records. June contracts, for instance, were a remarkable 12 per cent above any other single month prior to that time, and the following months remained at extremely high levels. This means, almost certainly, that actual construction work in 1959 will set new records, since the contracts precede the input of materials, manpower and services over a considerable period of time.

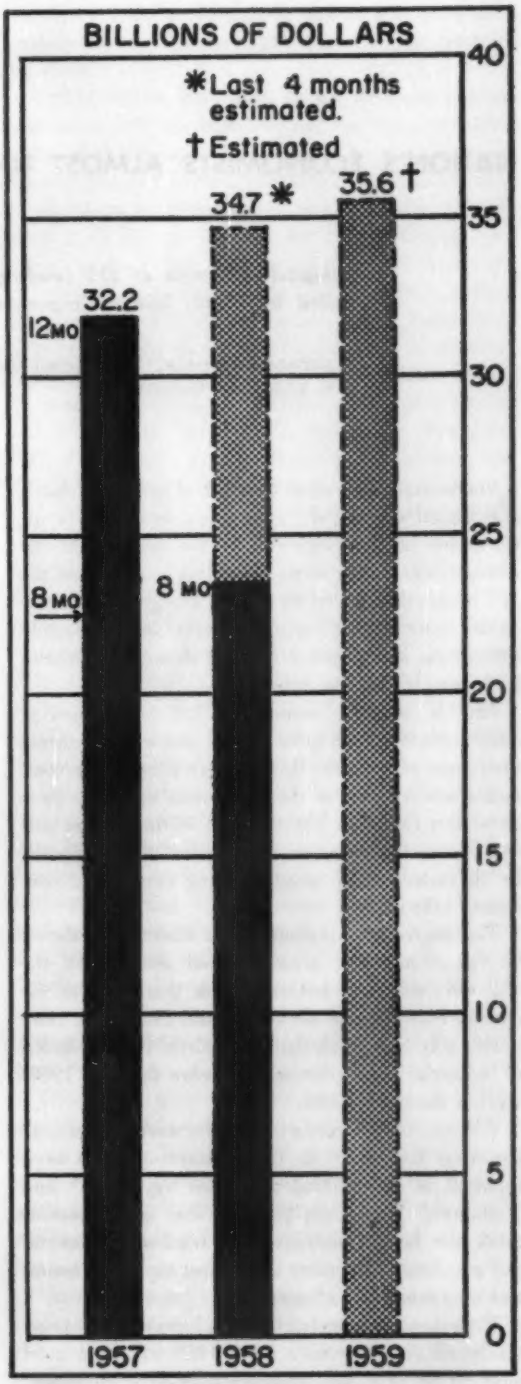
We estimate that total construction contracts (residential and nonresidential building and heavy engineering) in the United States will amount to $35,570,000,000 in 1959. This would be an increase of three per cent over the current year. If the increase seems modest in view of the business outlook for 1959, it must be remembered that we are talking in terms of contracts, and that a sharp rise in contracts has already occurred in 1958. In considerable degree, the increases so far this year represent specific government efforts to stimulate the economy by stimulating construction. In some cases (highways, for

instance) contracts let this year might normally have been scheduled for 1959, so that there has been some "borrowing from the future." The extent of government participation in 1958 is indicated by the fact that in the first eight months, private contracts ran behind 1957; all the increase, and then some, was provided by the government-ownership sector. We anticipate that in 1959, the increase in private contracts will be 3.2 per cent, as compared with an increase of 1.6 per cent in Federal, state and local government contracts (these figures are rounded to three per cent and two per cent, respectively, in Table 1).

Dollar volume of nonresidential building contracts is estimated to increase five per cent in 1959; residential building contracts, to increase one per cent; total building contracts, three per cent; public works and utilities contracts (heavy engineering) two per cent. Physical volumes in the building categories, as measured by floor area, are likely to rise slightly less than the dollar figures, because of continuing rises in construction costs. In Table 2, the physical volume estimates for major building classifications are shown. We anticipate increases in all nonresidential building categories except public buildings and social and recreational buildings. The largest percentage increase (14 per cent) is shown for manufacturing buildings, but this would still represent a recovery to a modest total; if better business should cause managements to revise upward their plans and appropriations for plant and equipment above the levels they presently indicate, this figure could go substantially higher.

We estimate that private nonfarm housing starts in 1959 will remain at this year's level. The outlook on this point is quite cloudy. On the one hand, rising interest rates are likely to dampen the FHA and VA programs, in particular; on the other, the possibility exists of early legislative action to stimulate housing activity. There is no question that there is a market for more housing than the 1,160,000 units we have estimated, but we have assumed that these two opposing influences will tend to offset each other at about the 1958 level. Because of cost increases and a trend toward smaller units, including apartments, we have estimated floor area in the contracts at two per cent less in 1959 than in 1958.

If our expectations are realized, construction contracts next year will again set a new record in dollar volume, and 1959 will mark the fifteenth consecutive increase and the twelfth consecutive record year.



BUILDING AND ENGINEERING CONTRACTS, *48 states (as recorded by F. W. Dodge Corporation)—The indication for 1959 is a continuation of the postwar uptrend in total contracts.*

NATION'S ECONOMISTS ALMOST UNANIMOUSLY OPTIMISTIC ABOUT 1959

Composite Opinion of 212 Leading Economists Polled by F. W. Dodge Corporation in October 1958

BY GEORGE CLINE SMITH, VICE PRESIDENT AND ECONOMIST,
F. W. DODGE CORPORATION

ECONOMISTS are often accused of a sort of intellectual dispersion—a tendency to fly off in all directions in their opinions of the outlook. At the moment, the charge seems to be baseless, because the 212 economists polled by F. W. Dodge Corporation in its latest annual opinion survey are practically unanimous in expecting 1959 to show improvement in the major business indicators.

This is in sharp contrast to last year's survey, where opinions were quite mixed, and where a strong undertone of recession thinking ran through the comments which many of the economists added to their numerical forecasts. The thinking in the current survey is that the recession is over, and that 1959 will be characterized by steadily rising output and continued inflation.

The degree of unanimity as to direction is shown by the estimates of gross national product. Of the 212 economists all but two think that GNP at the end of 1959 will be above the mid-1958 level. Similarly, only four think that the Federal Reserve index of industrial production will be below the June 1958, level at the end of 1959.

Whereas in last year's survey the word "recession" appeared frequently in the comments, it has been replaced in the current comments by "boom" and "inflation." This is not to imply that the economists think the latter conditions are wholesome; several call attention to the more unpleasant aspects of booms and what may come afterward.

There is no gainsaying the fact, however, that practically all the economists think 1959 will be a good year for the economy, whatever may come afterward. This feeling is so strong that there seems to be little point in analyzing it at length.

Of more value, perhaps, is a brief review of the negative side, since the comments do suggest that there are soft spots to be bolstered and pitfalls to be avoided. Among those more frequently mentioned were:

- § Inflation and runaway boom, with a counteraction sometime after 1959.
- § Possible cutting off of the recovery by excessive credit restriction, most often mentioned in connection with the housing outlook.
- § Prospects for a relatively slow decline in the number of unemployed.
- § A possible lag in recovery of capital expenditures from the "relatively low" levels of today.
- § The question of consumer acceptance of the new automobile models.
- § A continuing profit squeeze facing many businesses.
- § Rising government deficits, high taxes and restrictive tax structure.
- § Constantly rising wage rates.

The words of one economist seem to sum up the feelings of most: "I'm convinced the overall recovery is genuine and 1959 will be well above 1958 in many business measures but look for continued adjustments, reflected in persistently high unemployment, shrinking bank and business liquidity, lagging profit margins, a new moderate farm recession, and a slow pick-up in new plant and equipment expenditures. The fear of inflation will continue to spread but prices will not rise too rapidly until overall private spending starts to mount along with government deficits."

The difference in outlook between the current survey and the one last year is pointed up by some of

the things the economists failed to stress this year. Last year, for instance, the possibility of a tax cut intrigued the economists; this year, they seem to have given it up as hopeless. In the outlook for 1958, the possibility of widespread strikes loomed large; this subject is hardly mentioned for 1959. Two other subjects which were prominent in last year's survey, but which are much less so this year, were a possible reduction of defense spending, and uncertainty about the stock market.

International affairs, which have often played a large part in the comments on earlier surveys, are very much subordinated to domestic considerations this year. A few economists state that their opinions "assume no change in the international situation" or words to that effect, but none stresses foreign affairs as a positive factor in the outlook.

There are, of course, differences of opinion as to the extent of business improvement in 1959. There seem to be two principal schools of thought. One group would agree with the economist who said: "We are heading into another boom, stimulated by growing population (war babies reaching college, job-taking, marriage age), defense, inflation." The other line of reasoning was expressed thus: "Despite our optimism about certain segments of the economy, we are not forecasting that 1959 will be a 'boom' year, although business generally will be at much higher levels than those experienced in 1958. The coming year will be somewhat below the long term growth line." Reasons given for this conclusion were persistent unemployment and a relatively low level of capital expenditures.

The prospect of continued inflation was dominant throughout the comments, but again, some economists foresaw sharp price increases, while others felt that the 1959 outlook was for only moderate inflation. But virtually all the economists agreed that the course of prices would be upward, and many of those who held that the 1959 increases would not be serious noted that more rapid inflation was in prospect for later years.

* * *

As always, a couple of the economists commented on the subject of economists' surveys as such. Since this Dodge survey is probably the oldest continuing sampling of economists' opinion, it might be well to look into these comments briefly. One highly respected corporation economist referred to such surveys as "playing the numbers game" but he then proceeded to do a thorough job of replying, and we have quoted him liberally in the comments. Another said he had relatively little confidence in the results since most respondents are "merely reflecting intuition, hunches or ideas."

Unfortunately, economics is not an exact science, and because of its complexity and the important influence of psychological considerations, it may never become exact. It is entirely possible, for instance, that a good forecast (good at the time it is made, that is) may itself become part of the chain of cause and effect, and produce counter-actions which make the forecast turn out to be wrong. While there is a place for "model building" and mathematical projections, it is possible for them to go far astray in forecasting. Some of our economists do a highly scientific job of making up their projections; others undoubtedly use intuition or "hunches," if you prefer. The practice of economics is both an art and a science, and there is value in each approach.

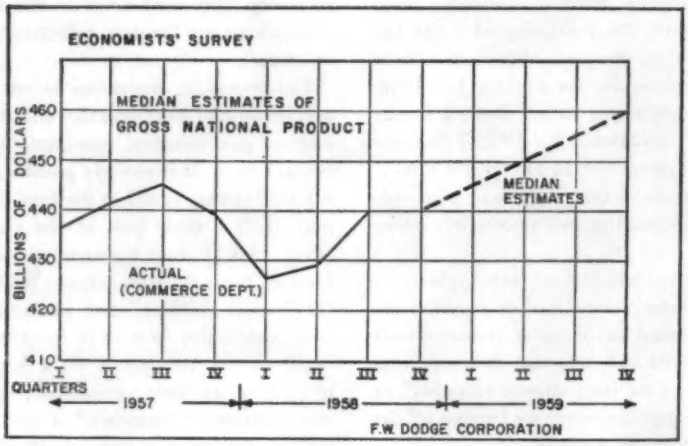
It is not easy to analyze the numerical forecasts. There is always a wide spread of opinion on degree, and often on direction of movement, as well. There is no particular magic in the median of the forecasts, although it is a handy analytical device. Experience in past years indicates that the median forecasts are pretty good at indicating direction of movement, although they are conservative in that they tend to understate the actual magnitude of movements, both upward and downward.

But the numerical forecasts, coupled with the flavoring of the qualitative comments, offer an unquestionably valuable look ahead. It would have been impossible to study last year's survey, for instance, without realizing that a danger period lay ahead, and we reported that there was "considerable concern" over the outlook for 1958, with the words "decline" and "recession" appearing frequently, and with no "real optimism for the immediate future." This turned out to be a valid assessment of the short-term outlook.

Things are quite different in this year's survey, and that alone is a significant and valuable indicator of the outlook for 1959. The economists are saying, quite clearly, that they think 1959 will be a good year, substantially better than 1958, although it will not be without its problems.

* * *

The economists participating in the current survey include 28 in financial organizations and insurance companies, 93 from other business firms, 49 from colleges and universities, and 13 from government; the remaining 29 are consultants or members of trade and research organizations.



GENERAL COMMENTS

Comments on specific questions are included with the discussion of those questions below. A large number of respondents commented on the general business outlook, and the following quotations are typical of the views expressed:

"1959 will see continued economic recovery based on high personal consumption expenditures, a larger volume of durable goods purchases, a continued high level of construction expenditures, and large government spending."

"Record government spending for defense, large Federal deficits, rapid recovery in industrial production, expected record construction activity, and high personal income are the important factors that will lead to new GNP peaks in 1959."

"The economy seems to be starting a general recovery. There will be some setbacks in 1958 and 1959 and the rate of recovery may be unsatisfactory to some individuals. However, a slower recovery may be evidence of greater strength and stability in the long run."

"I am concerned about the current state of the money market and its near term effect on business. Two key industries, housing and automobiles, will be directly and adversely affected by a continuation of current money market conditions."

"It appears that the recovery is proceeding vigorously and that it will continue to do so."

"The recession is now definitely over. Continuing sound recovery through 1959 is anticipated. But a return during 1959 to boom conditions and to levels above the long-term trend seems unlikely."

"1959 a prelude to 'boom' and possible reaction in mid- or late 1960. Inflation push will gain momentum as year proceeds."

"1959 will be another year when the bears will have to run for cover. The typical characteristics accompanying a cyclical recovery will be in full play throughout 1959."

"Ruling out of consideration a major war, I would expect the foundation for a major boom to be laid in 1959. I think the boom will not be apparent that early. If the boom is not checked I think it will be the greatest in our history."

"I believe 1959 will be the best year to date."

"Here we go again."

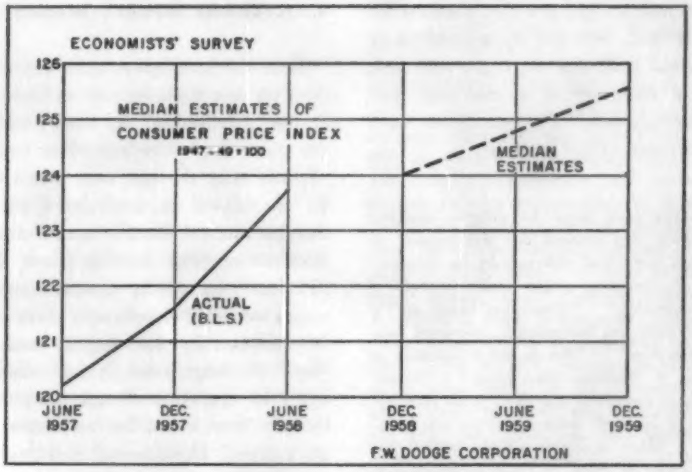
DETAILS OF REPLIES

The economists surveyed were asked to present specific forecasts for the remainder of 1958 and for 1959 for several major economic indicators. A total of 212 economists replied. A few omitted replies to some parts of some questions, but there were more than 200 replies to each part of each question. The lowest response, as usual, was on the question of new construction, perhaps reflecting the comment of one economist who said "But you folks (Dodge) are the experts on this!"

As we have noted, summarizing these surveys offers some problems. As in the past, we are reporting the median estimates and, where appropriate, the range of the forecasts, with a selection of the comments. We are also reporting the pattern of the trends forecast on four of the questions, to give some indication of the economists' thinking as to whether movements will be steady or variable.

1. GROSS NATIONAL PRODUCT

On the average, the economists think the gross national product will rise steadily through the remainder of 1958 and 1959. The median rise works out at $5 billion each quarter on a seasonally adjusted



annual rate basis, reaching $460 billion at the end of 1959. This would be an increase of seven per cent over the figure for the second quarter of 1958 (the latest available at the time the questionnaire was mailed) and an increase of five per cent during 1959. All but two of the economists placed the total at the end of 1959 above the second quarter 1958 level, with most of them putting it substantially higher. There is a wide variation in the individual figures for the fourth quarter of 1959, with no "most popular" or modal number; in fact, just as many economists picked $480 billion as chose the median figure of $460 billion. The middle 50 per cent range (that is, the range covered by 25 per cent of the total replies on each side of the median) for the fourth quarter of 1959 ran from $449 billion to $473 billion.

With regard to the pattern of change, the vast majority of the economists (86 per cent) saw a steady upward trend throughout the six quarters forecast. Another nine per cent saw a decline in the second half of 1959, following a rise up to that point, and three per cent felt that the second half would level off, following a rise. The other two per cent were scattered among various patterns.

COMMENTS: *"Steady increases in GNP due to increased governmental expenditures, creeping inflation and increased willingness of individuals to buy more on installment." / "Productivity should play a greater role in GNP gains during the forecast period than it has in recent past." / "Small recovery through 1958 and early 1959 and then a gain in momentum by second quarter." / "Segments most likely to show significant increases are inventory accumulation and personal consumption expenditures." / "A steady but comparatively gradual increase is foreseen for GNP from the second quarter 1958 through second quarter 1959. Recovery will not speed up until second half of 1959 and then only if supported by a higher level of consumer durables (particularly autos) and plant and equipment expenditures." / "No major gain." / "General uptrend will have wide impact and GNP will reflect this broad rise." / "A new record is ahead." / "Trend will depend largely on how the new 1959 automobiles sell." / "Rather small increases will be due to substantial continuing unemployment." / "Trend is unmistakably up." / "Private sector will remain strong until third quarter 1959. Government sector will weaken in 1959." / "Total output will soar to a new high during last quarter of 1958 and continue upward throughout 1959."*

2. CONSUMER PRICES

Almost all the economists think that the consumer price index will rise steadily during 1959. Only 11 thought that the index at the end of 1959 would be below the June 1958 level. The median forecast for December 1959 is 125.5, compared with 123.7 last June. The middle 50 per cent range of the December 1959 figures is from 124.5 to 126.5. The range of the forecasts, incidentally, extends considerably further upward than downward; 27 of the economists put the December 1959 figure anywhere from 128 to 133, whereas only two put it below 123. Several of the economists indicated their belief that food prices would have a restraining influence, tending to offset to some extent rises in other prices.

The pattern of individual forecasts was similar to that for GNP. A steady upward movement in the consumer price index was indicated by 84 per cent

of the economists. Another eight per cent forecast an increase in the first half, followed by a leveling or a decline in the second half, and three per cent took an opposite point of view, seeing a level first half and a rise in the second half. The remainder were scattered among various other patterns.

COMMENTS: *"Chances seem good for relative stability through the end of 1958, but gradual rise will resume in 1959." / "Bumper farm crops and overcapacity in manufacturing will tend to keep consumer prices under control." / "Gradual increase is inevitable." / "Slowly but surely up." / "May be restrained a little by competition, increased productivity, adequate capacities." / "Not as much inflation as the headlines indicate." / "Stability short lived." / "Creeping inflation has not been contained and there is no evidence that it will be." / "Will lag well behind business recovery." / "The trend is up." / "More creeping inflation ahead, but nothing faster than a creep in 1959." / "Will be pretty well stabilized during remainder of 1958 but will rise during 1959 for demand and cost push reasons." / "Look for slowly rising trend in 1959."*

3. WHOLESALE PRICES

The forecasts of the economists for the wholesale price index are similar to those for consumer prices, although the upward movement indicated is not quite as strong. In July of this year the index stood at 119.2, and the median forecast of the economists is that it will rise to 121.0 by the end of 1959. The middle 50 per cent range goes from 120.0 to 122.0 for December 1959, but once agin the total range extends much further upward than down. Twenty-three of the economists set the final figure at 124 or higher, while only ten put it below 119. Again, several of the economists indicated their belief that food prices would be level or down, with other wholesale prices increasing.

COMMENTS: *"Upward price pressure should begin as hard goods begin to move faster in 1959." / "Wholesale prices will rise somewhat more rapidly than consumer prices." / "With continuing recovery and continuing wage increases, industrial prices will resume their upward trend." / "Slight decline in 1959, primarily because a buyer's market will continue throughout the year." / "Wholesale price recovery will be dampened by slow movement of general recovery." / "A slowly rising trend is expected in 1959." / "Recovery will place new pressures on industrial prices and force up general price level." / "In the industrial area, productivity and costs will run a close race but costs will win." / "Some upward price tendencies but no serious inflation." / "Recovery will bring price increases at wholesale." / "Creeping uptrend will resume next year, but explosive rise is not expected."*

4. AVERAGE HOURLY WAGES

Here the economists were more nearly unanimous than on any topic in any earlier survey, to the best of our recollection. As usual, they were not asked for numerical forecasts, but were asked to state whether they thought next year's wage trend would be up, down or unchanged in three categories: durable and nondurable manufacturing and building construction. For durable goods manufacturing, the opinions were solidly upward: no economist thought wages would go down; only three thought they would be substantially unchanged; and all the rest said "up." On wage rates in nondurable manufacturing, again no economist thought they would go down; 21 thought they would be unchanged, and the rest saw an uptrend. Opinions of building wage trends were surprising only in that two economists actually indicated a downtrend; 18 saw no change, and the remainder forecast an uptrend.

COMMENTS: *"If recession cannot stop the steady rise in wage rates, I see no reason why they should not rise during recovery." / "Wage rates have a built-in upward tendency." / "Moderately upward trend." / "Living cost escalators and annual improvement factors insure upward trend." / "Not up by much but upward pressure clearly discernible." / "I see no change in this trend from recent years." / "Increases will be smaller than in recent years." / "Expect two—three per cent up in both durable and nondurable manufacturing." / "Slightly up." / "Increased in recession and will continue to increase." / "Slight increases — smaller in proportion to other years." / "Up but in moderation. Productivity will be up." / "Rate of advance slower than during 1955-57; may be about the same as in 1958." / "It is hard to visualize lower labor rates." / "Up but not as much as fringe benefits." / "Slight change only." / "Wage rates will move up, but at a much less rapid rate than in recent years." / "The increases will be less than in the past but there is no evidence that increased wage demands are going to be stopped entirely." / "Will probably be smaller than in several other recent years but there are almost sure to be increases across the board."*

5. INDUSTRIAL PRODUCTION

The economists expect industrial production to rise somewhat faster than gross national product next year. In view of the fact that the index of industrial production is based on physical volume, while GNP is in current dollars, this forecast may at first glance seem inconsistent with their strong expectation of continued inflation. The inconsistency is only apparent, however; since industrial production fell much more sharply than GNP in the recent recession, it

is not unreasonable to expect it to recover more rapidly.

The index of industrial production stood at 134 in July 1958. The median forecast of the economists is that it will rise steadily to 147 by the end of 1959. That would be an increase of 10 per cent over the whole period, and five per cent during 1959. The degree of unanimity is not too high for the end of 1959, however, and the middle 50 per cent range extends from 141 to 150. The largest number of economists, incidentally, picked 150 for December 1959; 25 of them made this the modal figure.

The pattern of the forecasts was again quite similar to that for GNP although not quite so strongly upward. Some 82 per cent saw the index of industrial production rising steadily. Another 13 per cent predicted a rise in the first half of 1959, followed by a leveling off (six per cent) or a decline (seven per cent). Only three per cent indicated a steady downward movement, and the remainder were scattered among other patterns.

COMMENTS: *"In 1959, auto sales will be better, steel production better, and more money will be spent on durables than in 1958. As a result, production will increase to the pre-recession level by mid-1959 and rise above it for the whole year."* / *"I believe industrial production will rise relatively sharply, much more than GNP."* / *"Gradual and pronounced upturn likely, but not paralleled by drop in unemployment."* / *"Providing we have labor peace in auto and steel, this segment of the economy should rise substantially."* / *"So far, the rise has been at a higher pace than in previous post-war recessions. Expect this index in 1959 to exceed somewhat the peak months of 1957."* / *"After a rapid recovery by the end of 1958, good growth will be maintained in 1959. The outlook for automobiles and a possible steel strike may alter this somewhat."* / *"This component brought down general business and it will accelerate the recovery. However, the rate of recovery in industrial production will be slower than the decline."* / *"If we are to make significant progress toward recovery, industrial production must pass its previous peak by the middle of next year."* / *"Recent strength based largely on inventory turn-around. Rise from here on out related to rise in consumption."* / *"A two—three per cent annual increase in productivity added to the come-back from the 1958 recession should lift industrial production to a new high by the end of 1959."*

6. EXPENDITURES FOR NEW PLANT AND EQUIPMENT

The median forecast of the economists is that plant and equipment spending in 1959 will total $33 billion. This would imply an increase of six per cent over the latest official forecast of $31 billion for 1958. The middle 50 per cent range of the estimates ran from $32 billion to $34 billion, with a clear preference for $33 billion (47 replies gave this figure).

COMMENTS: *"While the decline in capital spending seems to have stopped, a combination of high-cost money and adequate capacities may prevent any sharp rise. Spending will be directed more toward equipment than plant, and more toward improvement than expansion."* / *"The competitive drive for modernization is strong enough to halt the decline and sustain plant and equipment spending at a high level, but I do not think it sufficient to restore capital investment to '56-'57 levels."* / *"Some increase over 1958 but no major upturn. Major increase is about two years away."* / *"Expect a slight increase, but continued over-capacity in many industries will be a limiting factor."* / *"Will be in rising trend in 1959, but do not expect as rapid recovery as in other sectors of the economy."* / *"Slow growth in expenditures for plant and equipment will be evident in the next few years, but modernization and improvement rather than plant expansion will be more prevalent in the face of unused plant capacity combined with high and rising labor costs."* / *"Expenditures are not expected to be high in 1959 due to (a) excess capacity in many industries, (b) higher interest rates, (c) plentiful labor supply. I expect plant modernization, rather than additions to capacity, to be emphasized."*

7. TOTAL NEW CONSTRUCTION

On the average, the economists look for a modest increase in expenditures for new construction. In the first half of 1958 construction spending was reported at an annual rate of $48.3 billion. For the second half, the median estimate is $49.1 billion, with an increase to $50.0 billion in the first half of 1959 and to $50.5 billion in the second half of 1959. The middle 50 per cent range goes from $49.3 to $52.0 billion. Here, again, the total range emphasizes high, rather than low, figures, with 28 of the economists putting the second half of 1959 at $53 billion or higher, while only 11 picked $48 billion or lower.*

COMMENTS: *"New highs are expected for both the private and public sector."* / *"Residential and Federal, state and local government construction will continue to rise in 1959."* / *"A damper on construction expenditures may occur if FRB pushes monetary restraint policies."* / *"Highway program and other public spending plus a fairly high rate of homebuilding are likely to be the main elements of strength."* / *"The government boost in new construction will have run its course."* / *"Public construction will continue to hold up well, and residential improvement will help the increase. Industrial construction will lag, and thus hold down 1959's otherwise healthy increase."* / *"Highway*

**It should be kept in mind that this is the forecast of the economists polled by F. W. Dodge Corporation, and it is not to be confused with the construction forecast made by the Dodge organization itself.*

building, government housing programs, and inflation will continue upward trends in construction." / "Housing will be strong during last half of 1958 and first half of 1959, possibly tapering off in last half. Store and institutional building will be up in last half of 1959. Public construction will continue slow climb, with highways up substantially." / "Decline in private non-residential construction to end within a few months; to be replaced by a very slow uptrend next year. Public construction will be sharply higher."

8. NEW HOUSING STARTS

The economists are not particularly optimistic about the number of privately financed nonfarm housing starts for 1959. The median estimate for the second half of 1958 is 1,100,000 on an annual rate basis, with the first half of 1959 at the same rate and the second half at 1,075,000. The middle 50 per cent range for the second half of 1959 runs from 1,000,000 to 1,150,000.

The pattern of the individual forecasts is radically different from those for the major economic series. It will be recalled that more than 80 per cent of the economists expected a steady rise in GNP, industrial production and consumer prices. But only 33 per cent predicted a steady increase in housing starts, and 22 per cent foresaw a steady decline. The remainder were divided fairly evenly among seven other patterns. Nine per cent thought that the first half of 1959 would be down, with the second half up, and seven per cent thought the pattern would be exactly the opposite.

Several of the economists noted in their comments that lower housing starts were not inconsistent with rising business, in view of the possible effects of tight money. As one commented, "This is just what happened in 1957."

COMMENTS: *"The effect of monetary restraint will be felt on mortgage credit to a greater degree late this year and early in 1959, although Congressional action in the new session will ease the situation somewhat next spring and summer." / "I think the steam has run out of the housing spurt. Tightening credit will cut housing starts later this year and into 1959." / "While high priced money may restrain activity, governmental action should offset it enough to allow some gains." / "New residential building appears to be the bright spot on the business horizon. There should be some acceleration in the rate of this type of construction over 1957 and 1958 levels." / "Housing will remain strong for the next six months, because of recent improvements in consumer incomes, and expectations, and recession-caused improvements in financing. Increasing tightness of credit may curb the boom by mid-1959." / "Starts are expected to taper off during the second half of 1959. Shortage of mortgage money and higher interest rates will again be in the limelight." / "Higher interest rates will affect Government-assisted starts as 1959 progresses." / "We expect a leveling off. A moderate drop cannot be excluded." / "Tight money should dampen 1959 by 100,000 units."*

9. PERSONAL CONSUMPTION EXPENDITURES

In the first half of 1958 personal consumption expenditures ran at the annual rate of $287.2 billion. The median estimate of the economists is that the second half of 1958 rate will be $291 billion, and that the full year 1959 figure will be $300 billion. The modal figure for 1959 is also $300 billion, with 36 of the economists choosing this total. The middle 50 per cent range runs from $294 billion to $305 billion.

COMMENTS: *"With the general recovery, consumption expenditures should resume the general upward trend which stopped momentarily in 1958." / "Sustained increase in prospect." / "Durable goods spending should rise substantially after lagging badly this year. More stable food prices will hold down rate of growth in nondurable goods sector. Service expenditures will rise steadily."/ "People will spend, but perhaps the gains in soft goods and services will be stronger than for hard goods." / "Expenditures on nondurables and services will continue slow climb. Durables should turn upward." / "We foresee continuing long-term expansion of spending for services, growth for nondurable goods, and a recovery for durable goods." / "Personal income is now at an all-time high, and personal savings have been at record levels during 1957—and at high rates in 1958. This, along with some restoration of confidence, provides for an increase in personal consumption expenditures." / "I am inclined to believe that 1959 will be a good year for automobile sales and some types of home appliances. Other expenditures are likely to advance slowly."*

Participants in the economists' survey, except for those who asked for anonymity, were:

Adolph G. Abramson, S.K.F. Industries, Inc., Philadelphia; Robert W. Adams, Standard Oil Co. of N.J., N. Y.; Dr. Eugene E. Agger, Rutgers University; R. S. Alexander, Columbia University; Frank J. Andress, The Kroger Co., Cincinnati; Charles F. Andrew, United Carbon Co., Charleston, W. Va.; Willard D. Arant, Swift & Co., Chicago; Orville F. Armstrong, General Electric Co., Cleveland; Robert B. Armstrong, American Enka Corp., Enka, N.C.; Robert H. Armstrong, Armstrong Assoc., N.Y.; H. B. Arthur, Swift & Co., Chicago; A. J. Ash, Butler Manufacturing Co., Kansas City, Mo.; P. T. Babson, United Business Service, Boston; L. Durward Badgley, Mutual Life Insurance Co., of New York; N. Bruce

Bagger, The Fafnir Bearing Co., New Britain; John Balint, General Electric Co., Bridgeport; Dr. Wesley C. Ballaine, Bureau of Business Research, University of Oregon.

Prof. Horace R. Barnes, Franklin & Marshall College, Lancaster, Pa.; Paul A. Baumgart, Safeway Stores, Inc., Oakland, Cal.; Claude L. Benner, Continental American Life Insurance Co., Wilmington; Edward G. Bennion, Standard Oil Co. of N.J., N. Y.; Edwin W. Berg, Campbell-Mithun, Inc., Chicago; Dr. Richard Berger, General Aniline & Film Corp., New York; Frederick M. Bernfield, Arlington, Va.; Charles A. Bliss, Harvard University; George L. Bliss, Century Federal Savings Assn., New York; Alvord L. Boeck, The American Hardware Corp., Anaheim, Cal.; E. H. Boeckh, Washington, D.C.; Prof. Harry D. Bonham, University of Alabama; Prof. Chelcie C. Bosland, Brown University; Philip J. Bourque, University of Washington, Seattle; Prof. Elmer C. Bratt, Lehigh University.

Waite S. Brush, Consolidated Edison Co. of N.Y., Inc.; Dr. Robert F. Bryan, J. H. Whitney & Co., New York; Dr. F. A. Buechel, Houston Chamber of Commerce; Dr. Henry Bund, Research Institute of America, New York; Ralph E. Burgess, American Cyanamid Co., New York; C. L. Burrill, Standard Oil Co. of N.J., N. Y.; Prof. Francis J. Calkins, Marquette University, Milwaukee; Chester B. Camp, Indianapolis Bond & Share Corp.; W. Glenn Campbell, American Enterprise Assn., Inc., Washington, D.C.; L. A. Carey, Continental Can Co., Inc., New York; William P. Carlin, Republic Steel Corp., Cleveland; Dr. L. W. Casaday, University of Arizona; Francis R. Cella, University of Oklahoma; James G. Chalfant, Olin Mathieson Chemical Corp., Baltimore; Arnold B. Chase, Bureau of Labor Statistics, Washington, D.C.

Prof. Homer V. Cherrington, Ohio University; William A. Clark, Monsanto Chemical Co., St. Louis; Charles E. Cleaver, American Seating Co., Grand Rapids; Philip E. Coldwell, Federal Reserve Bank of Dallas; Harrison W. Cole, Johns-Manville Corp., New York; George W. Coleman, Mercantile Trust Co., St. Louis; Gerhard Colm, National Planning Assn., Washington, D.C.; Dr. P. D. Converse, University of Illinois; Prof. Dudley J. Cowden, University of North Carolina; Edison H. Cramer, Federal Deposit Insurance Corp., Washington, D.C.; James S. Cross, Sun Oil Co., Philadelphia; Robert I. Cummin, Bulova Watch Co., Inc., Flushing, N.Y.; D. H. Davenport, Syracuse University; Ruliff Davison, The New Jersey Zinc Co., New York; George Van Buren Day, Aluminum Company of America, Pittsburgh.

G. R. Detrie, Inland Steel Products Co., Milwaukee; Frederick A. Dewey, New York; Prof. Charles A. Dice, Columbus, Ohio; Stuart C. Dobson, Fibreboard Paper Products Corp., San Francisco; John R. Doxey, California Packing Corp., San Francisco; Leonard A. Drake, Chamber of Commerce of Greater Philadelphia; Henry P. Dutton, Hendersonville, N.C.; Stahrl Edmunds, Ford Motor Co., Dearborn; Mark Wesley A. Edwards, Washington, D.C.; R. J. Eggert, Ford Motor Co., Dearborn; D. C. Elliott, Cleveland Trust Co.; Ira T. Ellis, E. I. du Pont de Nemours Co., Wilmington; Grover W. Ensley, National Assn. of Mutual Savings Banks, New York; B. E. Estes, Jr., U.S. Steel Corp., Pittsburgh; Warren W. Etcheson, University of Washington.

Prof. Robert Ferber, University of Illinois; Prof. Leo Fishman, University of West Virginia; Prof. Morris D. Forkosch, Brooklyn Law School; Harold G. Fraine, University of Wisconsin; Dr. John D. Gaffey, Arcadia, Cal.; Prof. E. H. Gault, University of Michigan; Edwin B. George, Dun & Bradstreet, New York; John P. Gill, University of Georgia; Prof. John A. Griswold, Dartmouth College; David L. Grove, Bank of America, San Francisco; Lee Gunlogson, Carrier Corp., Syracuse; Arthur W. Gutenberg, Phoenix; George G. Hagedorn, National Assn. of Manufacturers, New York; Clarence H. Haines, Harvard Trust Co., Cambridge; Louis F. Hampel, United Air Lines, Inc., Chicago; Prof. Albert Haring, Indiana University.

Richard J. Healy, American Radiator & Standard Sanitary Corp., New York; Borden Helmer, Union Carbide Corp., New York; William W. Heusner, Pabst Brewing Co., Chicago; W. Braddock Hickman, American Airlines, Inc., New York; Walter E. Hoadley, Jr., Armstrong Cork Co., Lancaster; Prof. Werner Hochwald, Washington University; Walter M. Hollowell, Lowry Air Force Base, Denver; Carl Holm, Larry Smith & Co., Seattle; Prof. Ralph C. Hon, Southwestern at Memphis; Floyd J. Hosking, Corn Industries Research Foundation, Washington; Dr. Louis S. Hough, University of Toledo; Norris O. Johnson, First National City Bank of New York; Robert E. Johnson, Western Electric Co., Inc., New York; Flavius B. Jones, Equitable Gas Co., Pittsburgh; Manley H. Jones, Illinois Institute of Technology.

Serge B. Jurenev, Continental Oil Co., New York; Lester E. Keller, Bausch & Lomb Opt. Co., Rochester; Prof. Donald L. Kemmerer, University of Illinois; Fred O. Kiel, Federal Reserve Bank of Cleveland; Dr. Hugh B. Killough, Brown University; Edmund R. King, Eastman Kodak Co., Rochester; Robert L. Kirk, Central-Penn National Bank of Philadelphia; E. J. Klock, General Electric Co., Schenectady; Stanley Mitchell Kolsan, General Merchandise Co., Milwaukee; Byron J. Korb, Koppers Co., Inc., Pittsburgh; Dr. Richard L. Kozelka, University of Minnesota; Dr. H. E. Kromayer, American Maize Products Co., New York; Harold D. Kube, Jansky & Bailey, Inc., Washington, D.C.; James N. Land, Mellon National Bank & Trust Co., Pittsburgh; J. A. Lane, Wheeling Corrugating Co., Wheeling, W. Va.

C. J. Lause, Jr., Jones & Laughlin Steel Corp., Pittsburgh; W. Gordon Leith, Consumers Cooperative Assocs., Kansas City, Mo.; Robert E. Lewis, The First National City Bank of New York; Edwin M. Libbin, Scott Paper Co., Chester, Pa.; Wesley Lindow, Irving Trust Co., New York; Oscar F. Litterer, Federal Reserve Bank of Minneapolis; W. Joseph Littlefield, Johns-Manville Corp., New York; Dean Shaw Livermore, Univ. of Arizona; H. D. Locke, Liberty Mutual Ins. Co., Boston; Franklin Lynip, Carrier Corp., Syracuse; Roger Magoun, Norton

Co., Worcester; Prof. Merten J. Mandeville, Univ. of Illinois; Marion H. Marks, Crown Zellerbach Corp., San Francisco; R. Matthes, Owens-Corning Fiberglas Corp., Toledo; Gordon W. McKinley, Prudential Ins. Co. of America, Newark.

David C. Melnicoff, The Pennsylvania Railroad Co., Philadelphia; Roger I. Mendes, Pacific Gas & Electric Co., San Francisco.; Edmund A. Mennis, The Wellington Co., Philadelphia; Dwight Michener, The Chase Manhattan Bank, New York; Henri L. Micoleau, General Motors Corp., New York; K. E. Miller, Armour & Co., Chicago; Dr. Floyd W. Moore, Western Michigan College; Prof. Karl Morrison, University of Mississippi; Pauline A. Mundy, Illinois Bell Telephone Co.; Prof. Roger F. Murray, Columbia University; Ragnar D. Naess, Naess & Thomas, New York; Robert R. Nathan, Washington, D.C.; Philip Neff, Planning Research Corp., Los Angeles; Dr. M. R. Neifeld, Beneficial Management Corp., Morristown, N.J.; A. J. Nesti, National Electrical Mfrs. Assn., New York.

Dr. Robinson Newcomb, Washington, D.C.; Dr. Paul H. Nystrom, Spring Valley, N. Y.; Daniel Parson, American Gas Assn., New York; Franklin L. Parsons, Federal Reserve Bank, Minneapolis; Dr. Clyde W. Phelps, University of Southern California; Joseph E. Pogue, New York; William G. Potter, E. L. Weigand Co., Pittsburgh; Robert T. Pullar, American Enka Corp., New York; Dr. John Freeman Pyle, University of Maryland; Dr. B. U. Ratchford, Duke University; William A. Reynolds, American Carpet Institute, Inc., New York; James L. Rich, U.S. Steel Corp., Pittsburgh; Prof. Robert Rockafellow, University of Rhode Island; Nathaniel H. Rogg, National Assn. of Home Builders, Washington, D.C.; Robert M. Rohrberg, Air Reduction Co., Inc., New York.

John G. Rolph, New York; Arthur Rosenbaum, Sears, Roebuck & Co., Chicago; O. O. Royer, Parker-Hannifin Corp., Cleveland; J. M. Ryan, Mountain States Telephone & Telegraph Co., Denver; W. J. Sadlowski, Monsanto Chemical Co., Springfield, Mass.; Arch D. Schultz, Ohio Chamber of Commerce; Senior Business Research Staff, Metropolitan Life Ins. Co., New York; William H. Shaw, E. I. du Pont de Nemours Co., Wilmington; DeVer Sholes, Chicago Assn. of Commerce & Industry; C. A. Sienkiewicz, Central-Penn Natl. Bank of Philadelphia; Dr. Arthur A. Smith, First National Bank in Dallas; C. T. Smith, The Carborundum Co., Niagara Falls; Leonard Smith, U.S. Rubber Co., New York; Dr. Tillman M. Sogge, St. Olaf College; Prof. George E. Soule, Washington College, Chestertown, Md.; Dean William R. Spriegel, Univ. of Texas; Benjamin Stacey, The First National Bank of Boston.

Dr. Mackenzie Stevens, Daly City, Cal.; H. Dorn Stewart, The Barrett Division, Allied Chemical & Dye Corp., New York; John R. Stewart, Board of Commerce, Detroit; W. B. Stewart, Westinghouse Electric Corp., Pittsburgh; Edward M. Strauss, Jr., Aluminum Company of America, Pittsburgh; Charles T. Taylor, Federal Reserve Bank of Atlanta; Woodlief Thomas, Board of Governors, Federal Reserve System, Washington, D.C.; William W. Tongue, Jewel Tea Co., Inc., Melrose Park, Ill.; Prof. Emil Samuel Troelston, University of Georgia; Robert P. Ulin, McGraw-Hill Publishing Co., New York; R. E. Van Antwerp, Corn Products Refining Co., New York; Peter J. Vogrin, Crane Co., Chicago; J. Roger Wallace, Journal of Commerce, New York; Paul J. Weber, Hercules Powder Co., Wilmington; Dean R. C. Weems, University of Nevada; Oliver P. Wheeler, Federal Reserve Bank of San Francisco; Robert A. Winters, Rubber Heel & Sole Institute, New Brunswick, N. J.; Donald E. Woolley, Bankers Trust Co., New York; Eugene C. Zorn, American Bankers Assn., New York.

F. W. Dodge Corporation, 119 West 40th Street, New York 18, New York

As Others See Us

"Your architecture," said visiting architect Ahmed Sidky of Saudi Arabia last month, "shows the same sense of urgency that an outsider notes in everything American."

Creativeness

This is the year creativeness—or creativity, as it is also called—publicly and perhaps forever lost its ancient status as a wonderful and mysterious gift of God and came under the cool and determined scrutiny of ever so many cool and determined (whether gifted or ungifted) people. In California last month, the theme of the annual meeting of the California Council of the American Institute of Architects was "Creativeness in Architecture" and some highly gifted architects and one highly gifted engineer were asked to address themselves to it. The final convention speaker, architect Harry Weese of Chicago, offered a sort of checklist of "enemies of creativeness" which could be tacked over any drafting board. The seven enemies: 1. Dogma —"We are being honest to the machines but dishonest to architecture. This is a generation of extruders and glaziers." 2. Pressures—major among them the overemphasis on the superhighway—"Highway engineers have the bull by the horns and they are running away with it." 3. Convention—"copying the masters results in sterility, which is more dangerous than ugliness. "4. Fashion— especially in new structural forms—"unless we are careful we can kill these new forms before they have a chance to develop. We have to learn the clichés and how to avoid them." 5. Difference for difference's sake—"a very deep trap." 6. Lack of courage, strength and conviction, and especially in matters concerned with the total environment—"Urban renewal has to be solved. We have to stop running away from it." And on preservation of historic monuments: "If we can't keep some continuity in the development of our buildings, we will be wiping out history." 7. Self-seeking and lack of empathy—"Architects have to understand others' problems in order to design creatively. We cannot withdraw. We must find out what's happening. Understanding is the prerequisite of a solution."

Art as Product

Paintings which function as wall, ceiling and floor sections were for sale at the Herman Miller Furniture Company Showroom in New York last month. The paintings, ranging in size from 82 by 38 in. to 144 by 81 in., were displayed in a special exhibit which made them parts of the room settings at the showroom. These handy partitions were a group of "dance paintings" by Xanti Schawinsky of which architect and designer George Nelson, whose company designed the installations, had this to say: "Speaking as an architect and designer rather than as a critic of painting, it appears to me that a very significant development is in the making with Schawinsky as one of the leading forces. The methods used by this group of contemporary artists have resulted quite inevitably in a kind of esthetic expression which has far more meaning as a *wall* than as a painting in its traditional sense. Furthermore, due to the relative rapidity with which paintings of this type are executed, the costs—omitting the inflationary tendencies aided and abetted by the art dealers—are such that these large works can often be comfortably fitted into the budgets of modern interiors. A new and healthy merger of painting and architecture, quite comparable to much that has been going on in sculpture, therefore seems to be in the offing." The paintings are created by Schawinsky by fastening shaped pads to his feet and literally "dancing" on the canvas.

Art, Science and Engineers

As all engineers know, all engineers would be philosophers if they were sure this would not disturb their reputation as "practical" as well as inventive men. At one session of the recent American Society of Civil Engineers convention in New York, two engineering educators gave them a chance to reflect on the art and science of engineering under the impeccably practical title "The Importance of Balance in Engineering Education." Prof. L. E. Grinter of the College of Engineering of the University of Florida emphasized the importance of sciences competence among engineers, reminding them that "the greatest need for engineers is always on the *frontiers* of knowledge." Prof. J. B. Wilbur of the Department of Civil Engineering at M.I.T. raised the question of whether the "new emphasis" on science is wise in view of the urgent current need for "well-balanced engineers and, indeed,well-educated men." He asserted that the need for scientists and engineer-scientists must not be allowed to obscure the need for engineers and engineer-humanists. "In engineering the art is still clearly of the essence," Prof. Wilbur declared, adding that optimum balance between science and art must be sought. The art of engineering he defined as "that means by which we are sometimes able to reach understandings and results not attainable purely through the orderly process of scientific analysis." And he added that perhaps the most important function of the truly professional engineer is "to harmonize and relate the conflicting tendencies and situations which are and always will be found outside the realm of pure science."

For the Whole Architect

The principal of London's Architectural Association, Michael Patrick, urging in a recent speech the need for raising educational standards, had some things to say about the results that must be sought by architectural educators. "When training is finished all architects must be prepared to be part artist, part constructor, part businessman and part leader. I do not think it matters much in what order you place them; perhaps the artist ought to come first, as the purely creative side is the sole responsibility of the architect and if he cannot do this with reasonable competence, he really should not call himself an architect at all. But it is no good possessing this quality at the expense of all the rest. Architecture is essentially something built, not just drawn and talked about. . . . The essence of our work is compromise—compromise between all factors affecting building, not just some of them; and the perfect balance can only be sought in one brain, not in a committee. . . . The architect whether he likes it or not has got to be an all-rounder and we had better accept the situation of being a jack-of-all-trades even if we are master of none."

A Record Special Report

FINNISH ENTRY WINS TORONTO CIVIC CENTER COMPETITION OVER JURY RESERVATIONS

Viljo Rewell, 48-year-old architect from Helsinki, has won the $25,000 international architectural competition for a new city hall and civic square for Toronto.

The competition, which had the warm praise of the jury for its exemplary conduct under the guidance of Prof. Eric Arthur of Toronto as professional adviser, attracted in its final stage eight proposals which are certain to provoke wide discussion among architects. (Rewell's winning design is shown on this page—with its designer in the lower photo; the other seven final entries are shown on pages 12-13.) Are the proposals addressed to a program or a jury? Is there a basic assumption that an architecture of novelty is the only route to success with a jury? Do competitions, in fact, produce architecture? Such questions may be followed by an even more heretical one: *are* competitions good for architecture?

The international jury, consisting of Sir William Holford of England, Ernesto Rogers of Italy, Eero Saarinen of the United States and C. E. Pratt and Gordon Stephenson of Canada, had some reservations about the winner which did not prevent a "unanimous" decision but which did produce a "minority report" strongly criticizing the design on functional grounds.

Text of the jury report follows:

September 25, 1958

Dear Mr. Chairman:

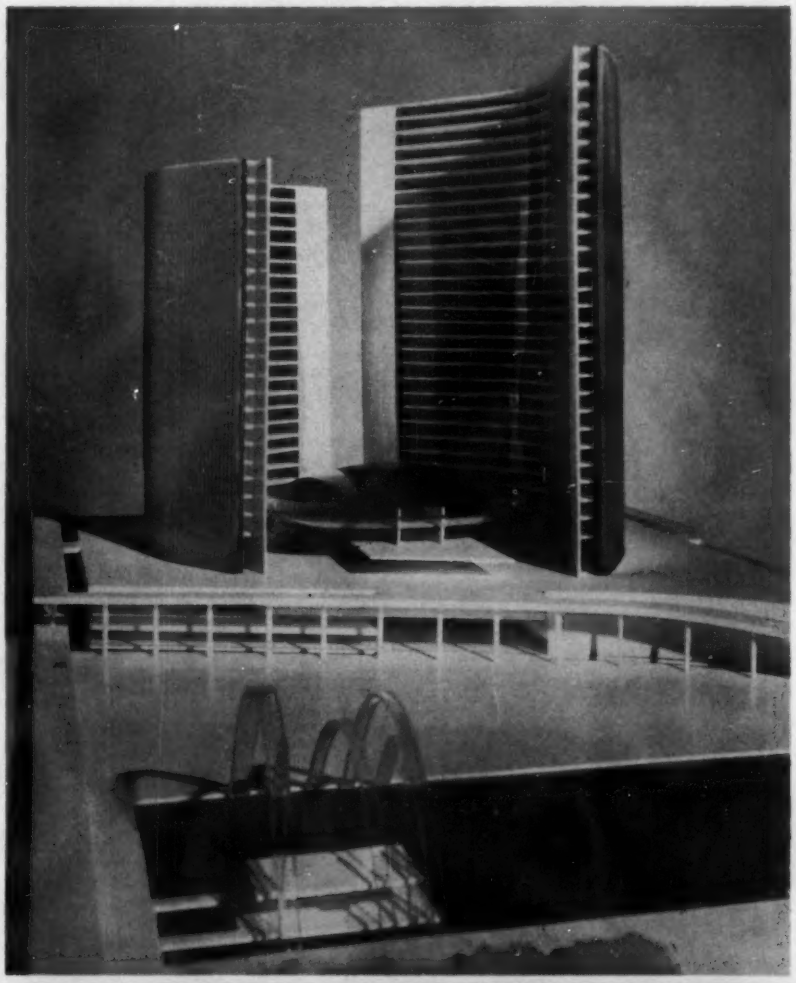
Before proceeding to report on its findings the Jury wishes to commend the City of Toronto and the Professional Adviser on an extremely well run professional international competition. It also wishes to extend its highest compliments to the 520 competitors from 42 different countries on the excellence of their submissions. The standard was unusually high and it was a most exacting task to select the eight finalists.

In this last stage of the competition these competitors have again developed and presented their proposals excellently. The drawings and models were of an exceptionally high standard. Altogether the Jury is convinced of the great merit of an international competition as a means of arriving at a design for such an important project as the City Hall and Square of Toronto.

The Decision

All members of the Jury unanimously accept the majority decision that

Continued on page 12



WOOD WON'T ROT WHEN IT'S COLD AND DRY

Living fungi, which break down the substance of wood are microscopic and abundant. But they need WARMTH and DAMPNESS to develop. Dampness will also peel off paint, crumble plaster, cause iron and steel to rust.

Vapor can flow through asphalt, paper, plaster and most building materials. It condenses when, upon striking a colder surface, the air in which it is suspended reaches a dew-point.

An empty air space is a good insulator against heat flow by Conduction because of its low density. But air does not prevent heat flow by Radiation and Convection. Of all heat transferred through structural spaces, 67% to 93% is by Radiation, depending on direction of heat flow. All but 7% of the rest is Convection. The surfaces of scientific multiple aluminum have a high 97% reflectance for heat rays; a low 3% absorptance and emittance. Its layers of aluminum and air spaces drastically retard Convection. Conduction is slight through its preponderant low density air spaces.

Scientific multiple aluminum insulation is long and continuous and almost completely impervious to water vapor. Vapor infiltration under its flat, stapled flanges is slight.

Where multiple aluminum is used, fortuitous vapor and water (for instance rain) which intrude into wall and similar spaces, will gradually flow out as vapor through exterior walls and roofs as vapor pressure develops within; because vapor flows from areas of greater to less density. The vapor cannot back up through the almost impervious aluminum, so it flows out, because exterior walls and roofs have substantial permeability in comparison to aluminum, far greater than the required 5 to 1 ratio.

To obtain maximum uniform depth protection against heat loss and condensation formation, it is necessary to use **edge-to-edge** multiple aluminum, **each** layer of which stretches from joist to joist.

The U. S. NATIONAL BUREAU OF STANDARDS brochure: "Moisture Condensation in Building Walls," discusses vapor and heat flow, and the causes and prevention of condensation. Use the coupon. Get a copy at our expense.

THERMAL VALUES* INFRA PARALLEL INSULATIONS
Non-metallic Insulation Equivalents in Inches†

	UP-HEAT	DOWN-HEAT	Cost§
TYPE 3	C .143=2⅓"	C .046=**7⅓"**	3½¢ sq. ft.
TYPE 4	C .105=**3⅓"**	C .038=**8⅔"**	5¢ sq. ft.
TYPE 5	C .081=4"	C .034=9½"	6¢ sq. ft.
TYPE 6	C .068=4⅘"	C .034=9¾"	7¢ sq. ft.
TYPE 9	C .043=**7¾"**	C .029=**11¼"**	12¢ sq. ft.

Types 1, 2, 7, 8 also available

*Determined by method of National Bureau of Standards in H.H.F.A. Research Paper 32.

†Calculated on basis of limiting thermal values cited in Fed. Specs. LLL-f-321b; HH-I-585; HH-I-521c; HH-I-551a.

§Average installation rate is 2000 sq. ft. per day per man.

CAN BE PURCHASED THROUGH YOUR PREFERRED LOCAL DEALER

Infra Insulation, Inc., 525 Bway., N. Y. C. Dept. AR11
Send "Moisture Condensation in Building Walls."

NAME_____

FIRM_____

KIND OF BUSINESS_____

ADDRESS_____

Viljo Rewell is the winner of the competition. The Jury is unanimous in regarding his entry as the most original in conception of any of those submitted. Its monumental qualities are of a high order and it is a composition of great strength. Its shape is distinctive and dramatic, setting it apart from other structures in Toronto and from administrative and office buildings everywhere.

The Jury is unanimous in the view that the best interests of the City will be served by the implementation of the winning design, and that a concerted effort should be made to give it the finest possible expression. To achieve this the architect should be given full cooperation and the maximum support of all concerned.

The Jury agrees that, accepting the basic design submitted by Mr. Rewell, there are possibilities for modification which would improve it.

(Sgd) William Holford

C. E. Pratt
Ernesto N. Rogers
Eero Saarinen
Gordon Stephenson

The minority, Sir William Holford and Professor Gordon Stephenson, have reservations on several important aspects of the winning design.

Majority Report

Basic Considerations

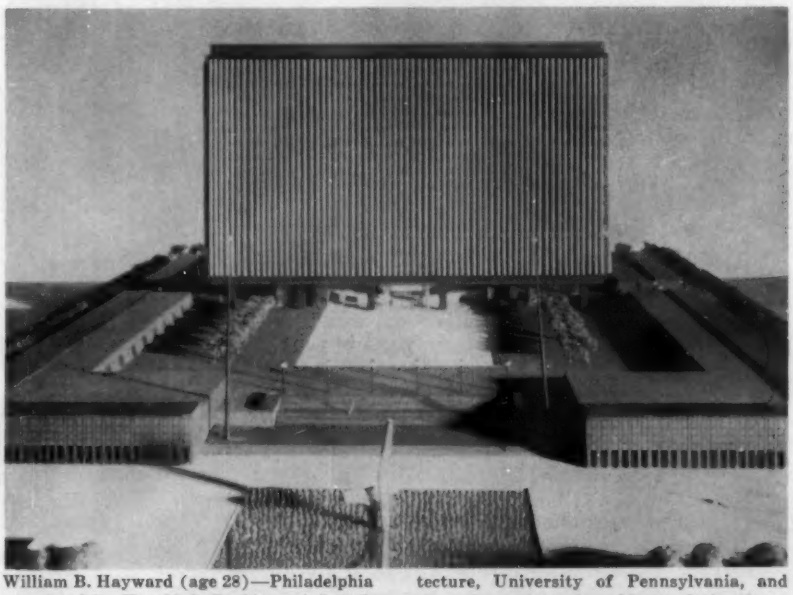
In the competition conditions the following statement is made: "In the eighteenth century, the cathedral and the town hall frequently dominated the urban scene both physically and spiritually. The City Hall in Toronto is largely overshadowed physically, but it still dominates by its presence. The City Hall in Toronto differs, in that respect, from those centers of civic administration in North America where the 'Hall' is just another office building hardly differentiated from the commercial structures which surround it.

"One of the reasons for this competition is to find a building that will proudly express its function as the center of civic government. How to achieve an atmosphere about a building that suggests government, continuity of certain democratic traditions and service to the community are problems for the designer of the modern city hall. These were qualities that the architects of other ages endeavoured to embody in the town halls of their times."

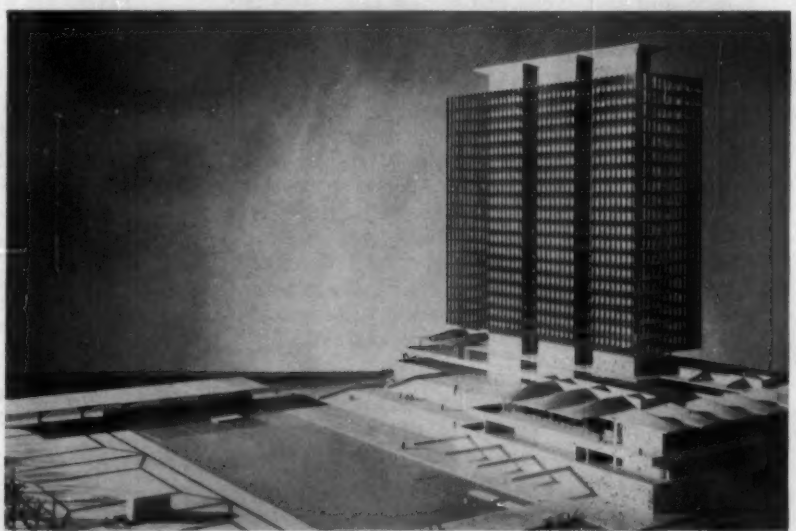
The Jury regarded this as the most important consideration in the competition and considered it very care-

OTHER ENTRIES IN FINAL STAGE OF TORONTO COMPETITION

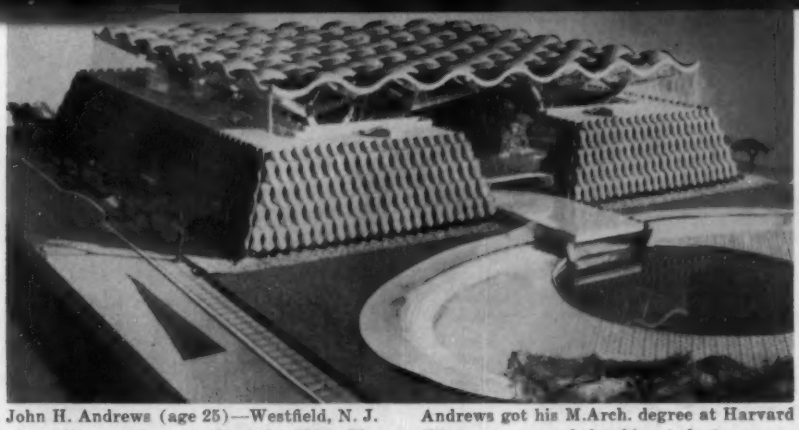
David E. Horne (age 30)—Toronto. Mr. Horne, the only Canadian finalist, got his M.Arch. degree at M.I.T. this year on an R.A.I.C. College of Fellows grant



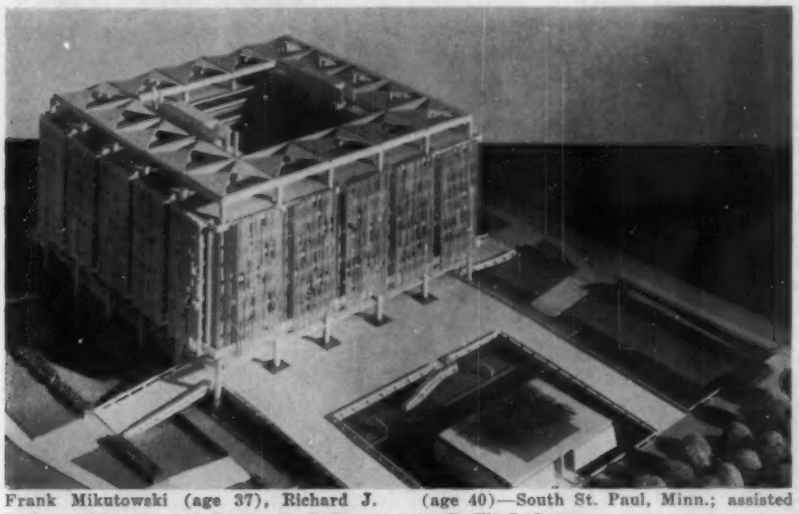
William B. Hayward (age 28)—Philadelphia —assisted by Harold J. Borkin and Joseph J. Wehrer, Ann Arbor, Mich. Mr. Hayward, an instructor in the Department of Architecture, University of Pennsylvania, and the only registered architect of the three, notes that the design was a three-way collaboration



Halldor Gunnlogsson (age 40)—Copenhagen—and Jorn Nielsen (age 39)—Copenhagen, partners in architectural practice in that city



John H. Andrews (age 25)—Westfield, N. J. Australian, registered there in 1957, Mr. Andrews got his M.Arch. degree at Harvard this year as a scholarship student



Frank Mikutowski (age 37), Richard J. Rafferty (age 34) and George E. Rafferty (age 40)—South St. Paul, Minn.; assisted by D. W. Grebner

Above: Perkins and Will, Architects—J. D. Lothrop (age 37), partner in charge, White Plains, N. Y.; assisted by Hafschmid, Paul and Capelle

Below: I. M. Pei (age 41), Architect—New York; assisted by Anthony N. Candido, Henry N. Cobb, Araldo Cossutta, Ervin Y. Galantay (structural engineer), William C. Henderson, Vincent de Pasciuto-Ponte (city planner), Pershing Wong

fully. In a project of this sort the City Hall must bear a significant conscious relationship to its surroundings. Toronto being a dynamic city, many buildings of various heights and shapes will be erected near the Square, each adding to the varied silhouette against which the City Hall must be seen. In this situation a choice must be made between several approaches.

1. The City Hall could be made similar to surrounding buildings and be absorbed into the downtown landscape. Any distinctiveness it would have would derive from its setting in the Square, but the building itself would be basically similar to many office buildings. In the opinion of the Jury such an approach was inadequate and did not meet the requirements.

2. The City Hall might be made so tall that it soared above all others in the downtown area, to become the dominant feature of the Toronto skyline. Certain competitors attempted to achieve this. However, to the Jury this did not seem practical as it resulted in a very expensive and, in certain regards, inefficient building, and there was no way of ensuring that the effect would be maintained.

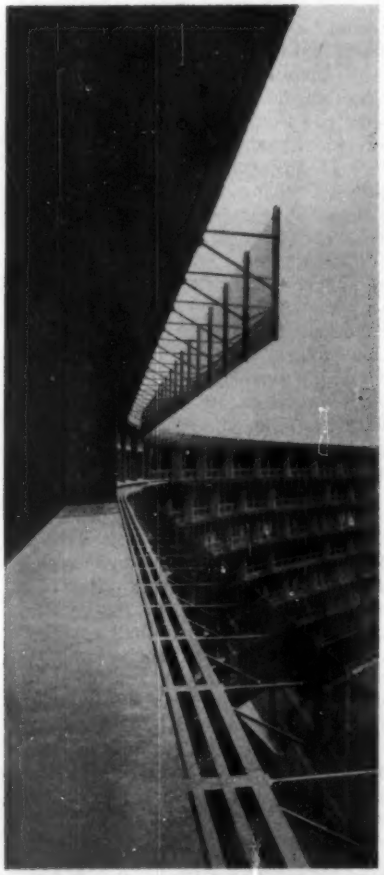
3. A relatively low, horizontal building placed within the Square could stand detached from the buildings around it, achieving an effect of dignity by its simple contrast with its background. The Jury regarded this concept as very promising and, indeed, five of the final proposals are in this category.

4. The City Hall could be a distinctive building, different in form and materials from standard commercial buildings. It would be impressive when seen from the Square and its immediate neighborhood, and also a distinctive feature of the silhouette of Toronto as seen from the distance.

In appraising the eight finalists the majority concluded that the winning architect had achieved a design which fulfilled this last approach excellently.

Many other considerations were also carefully weighed in arriving at a decision. The design of the Square is very important. The winner not only achieves a handsome space but successfully emphasizes the present City Hall, a building which the whole Jury regards as a most handsome example of its period. He takes full advantage of the continuity of the Square with the open space in front of Osgoode Hall and encourages the extensions to lead to University Avenue, creating a larger space within which Osgoode Hall is placed. The

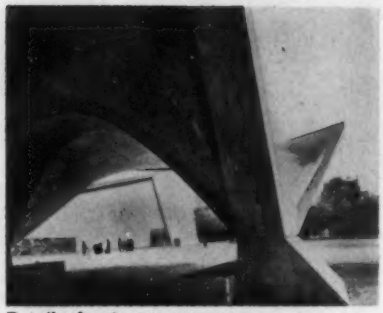
continued on page 312



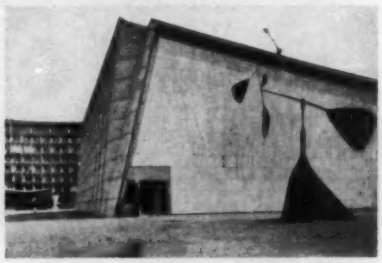
UNESCO House Completed; Will Open This Month

UNESCO House opens to the public on November 3, four and a half years after groundbreaking. The building (AR, Dec. 1952, July 1953, April 1955, and Feb. 1958), which UNESCO itself describes as "the most international building in Paris," is the work of Marcel Breuer of the U. S., Bernard Zehrfuss of France, architects, and Pier-Luigi Nervi of Italy, engineer. Their design was approved by a panel of five architects: Le Corbusier, Sven Markelius, Lucio Costa, Walter Gropius and Ernesto Rogers. Eero Saarinen was also consulted.

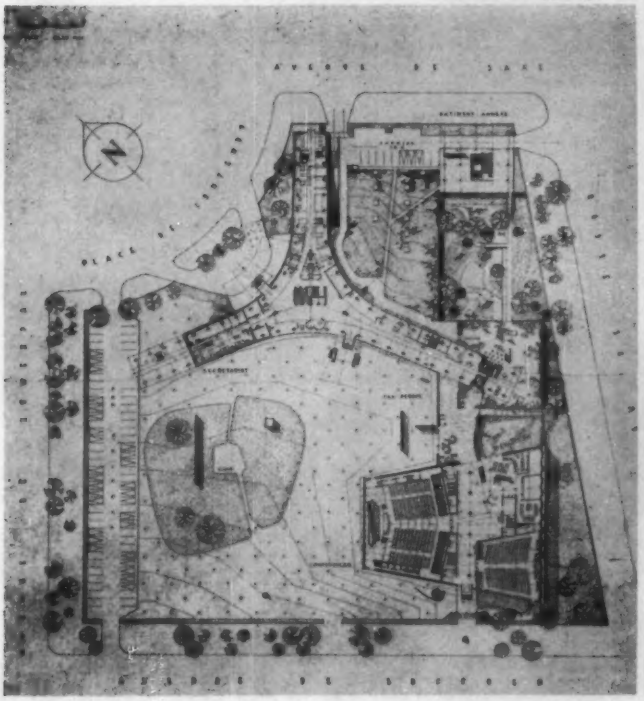
Of the three buildings comprised in the site (see site-plan at right) the Y-shaped secretariat and the trapezoidal conference hall are completed, and the square, four-story building which will house permanent delegations and non-governmental organizations (at upper right in the site plan) was started last autumn, and will be finished at the end of this year. The site, south of the Eiffel Tower, is one half of the semicircular Place de Fontenoy, whose other half is taken up by French government offices. One of the reasons for the form of the secretariat is to allow one of its three curving facades to continue the shape of the Place.



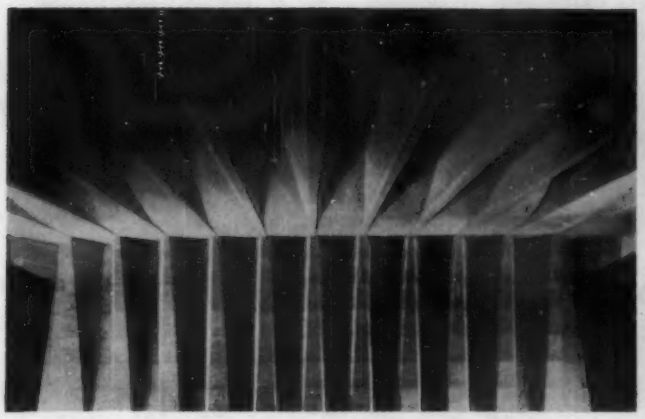
Detail of entrance marquee



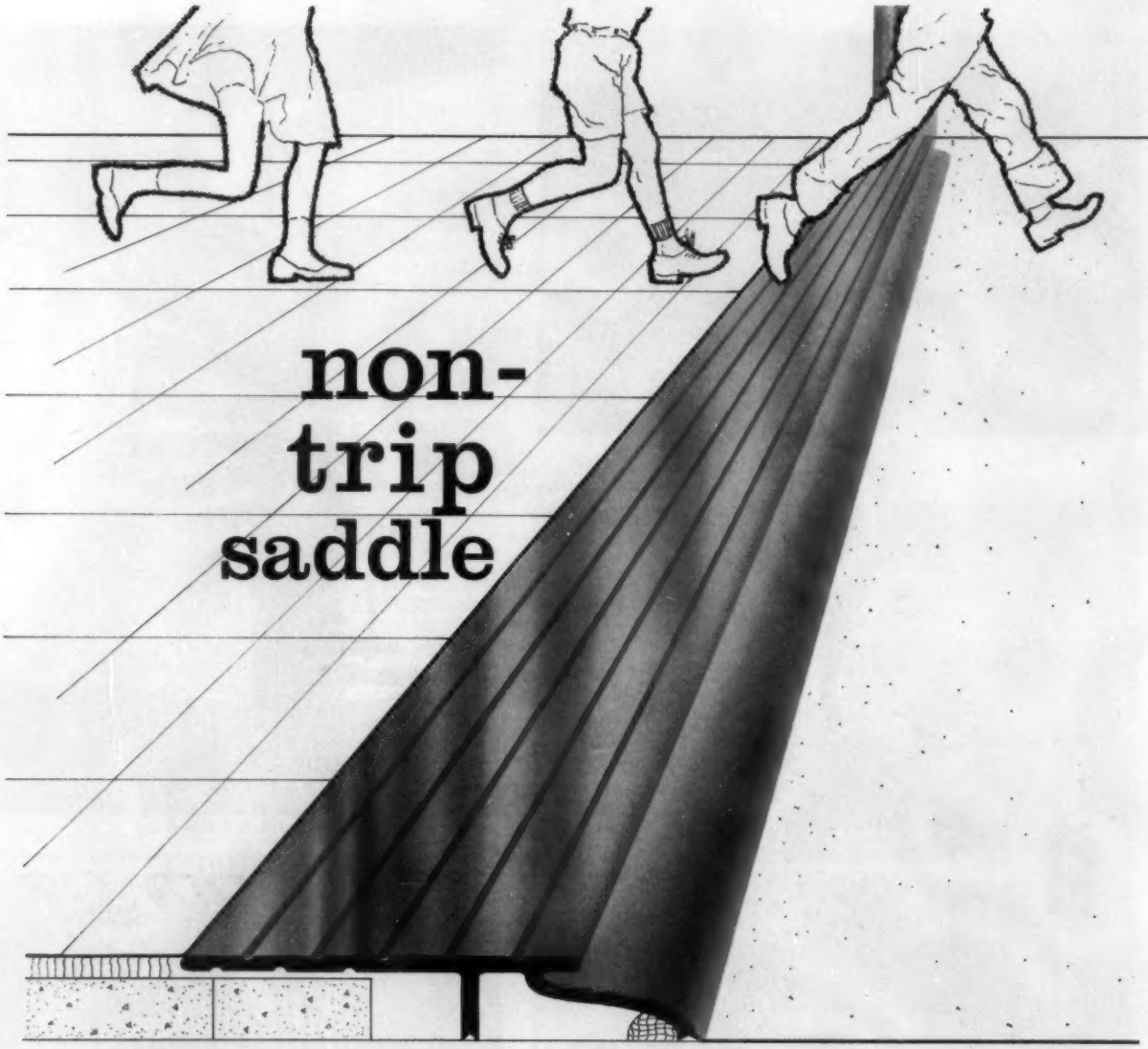
Jane Davis Doggett photos



Interior of conference hall



Detail of spiral fire-stairs



recommended for:

out-opening doors in schools and hospitals

available in extruded bronze or aluminum

For specifying weather stripping to be used on head, jambs, meeting stile and sill consult your ZERO catalog.

ZERO

Weather stripping for:

- doors
- windows
- saddles
- saddles for floor-hinged doors
- lightproofing
- soundproofing
- sliding doors

see our 28 page catalog in Sweets

19b / Zer or write

ARCHITECTURAL FILE

ZERO WEATHER STRIPPING CO., INC. ◈ 451 EAST 136TH ST., NEW YORK 54, N. Y. LUDLOW 5-3230

New shading for architecture with Alcoa Aluminum

All manner of solar shading is being successfully executed with Alcoa® Aluminum—in ways that create distinctive architecture. Witness above! Smart vertical lines for a low-rise building with a practical purpose, too. Control of sunlight the day around. Aluminum is easily fabricated for solar shading, and at the same time you can put color and texture onto facades in an endless array of pattern and line.

New uses such as this show aluminum for the versatile building material it is. To wit: the architect's metal! From a wealth of similar experiences, there's much to be gained by a call to your nearest Alcoa sales office for whatever technical help you may need. Or write Aluminum Company of America, 1888-L Alcoa Building, Pittsburgh 19, Pa.

Your Guide to the Best in Aluminum Value

ALCOA ALUMINUM

ALCOA THEATRE
Fine Entertainment
Alternate Monday Evenings

Building: Commercial Standard Insurance Co., Fort Worth, Texas

Architects: MacKie & Kamrath, Houston, Texas, and Preston M. Geren Assoc., Fort Worth, Texas

General Contractor: Thomas S. Byrne, Inc., Fort Worth, Texas

Aluminum Subcontractors: Browne Window Mfg. Co., Dallas, Texas, and Lemlar Mfg. Co., Gardena, Calif.

MORE THAN 110,000 SQ. FT. of Granco Roof Deck will blanket new KW-Dart Truck Co. plant in Kansas City. Architects: *William B.*

Men on the job describe extra

"We put down more area in a day with Granco's wide cover . . . sheets are easy to weld . . . properly bundled . . . fall right into place . . . paint's good . . . so is delivery."

These comments on Granco Roof Deck were recently made by members of a building team at the job site. Erecting a new assembly plant for KW-Dart Truck Co., they work with Granco Roof Deck every day. They have a chance to compare it with other decks, and . . . they like what they see!

Here are some other important reasons why we believe you will, too: Granco Deck has flared ends for convenient nesting. Sheets are available in 18, 20 and 22 gage. With one-inch insulation board, twenty year roofing bonds are obtainable. Year-around construction. No weather problems! Like more information on Granco Roof Deck? Just mail the coupon at right.

JOB SUPERINTENDENT Bert Clay of Universal Construction, Inc. says, "Granco sheets cover over 40 sq. ft. apiece. That's a big help when you've got a lot of area to cover. The paint job on these sheets is good. Delivery's been good, too. I give Granco credit for a fine job in bundling these sheets. When you have to bring up one at a time, it costs plenty. We hoist Granco sheets 20 squares at a time. They're ideal for handling."

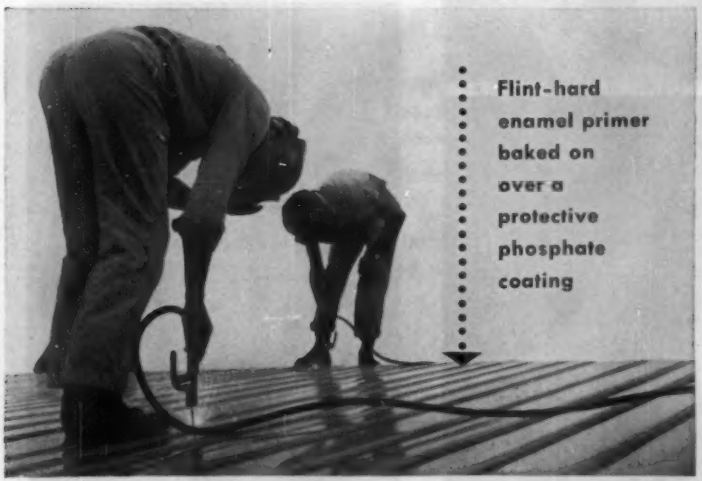
ROOF DECK ERECTOR Bob Izard of Izard Sheet Metal Co.* says, "One of the best features of Granco Deck is the speed of erection. Sheets fall right into place. Wide rib openings make it easy for welders to strike an arc. We've put down as many as 154 squares in 8 hours. That's more than you get with most decks! Granco sheets are good-looking, too. We like 'em."

*Sub-contractor for Havens Structural Steel Co.

Fullerton, Jr. and Earl Mc Camis; General Contractor: *Universal Construction, Inc.;* Steel Erector: *Havens Structural Steel Company*

benefits of GRANCO ROOF DECK

OUR CATALOGS ARE FILED IN SWEETS!



IN LESS THAN A MINUTE, two welders can easily attach 43 sq. ft. of Granco Roof Deck to framing. Wide-cover sheets mean fewer laps and welds. Long sheets (up to 21½') permit continuous spans, greater economy. Strong sheets provide better support for heavy loads. And look at the finish! Smooth, tough, tightly bonded to Granco steel. Enamel is "flo-coated" over steel and baked on at 350° F. for 20 minutes. No roof deck on the market is better protected against abrasion and corrosion!

GRANCO®

GRANCO STEEL PRODUCTS COMPANY
6506 N. BROADWAY, ST. LOUIS 15, MO.

A Subsidiary of
GRANITE CITY STEEL CO.
Granco Distributors in More Than 100 Principal Cities

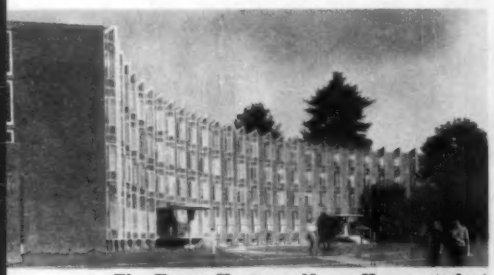
MEMBER
METAL ROOF DECK
TECHNICAL INSTITUTE
PROVEN STANDARD OF QUALITY

MAIL FOR GRANCO ROOF DECK MANUAL

Just sign this coupon . . . clip it to your company letterhead . . . and mail it to Granco address shown above. Attention: Department: R-811.

Name_____

Buildings in the News

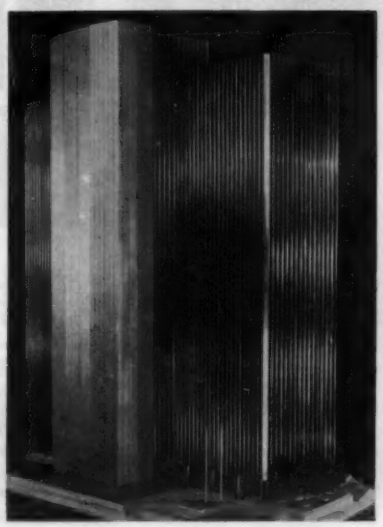


The Emma Hartman Noyes House, student residence at Vassar College, Poughkeepsie, N. Y., was dedicated last month. The building, which cost $1.4 million, curves around "The Circle," a large grass area; it has four stories and houses 156 students and two house fellows and their families. Each of the 51 front double rooms has a triangular bay window over a window seat. There are 54 single rooms at the back. Architect: Eero Saarinen. General contractor: Gilbane Construction Co.

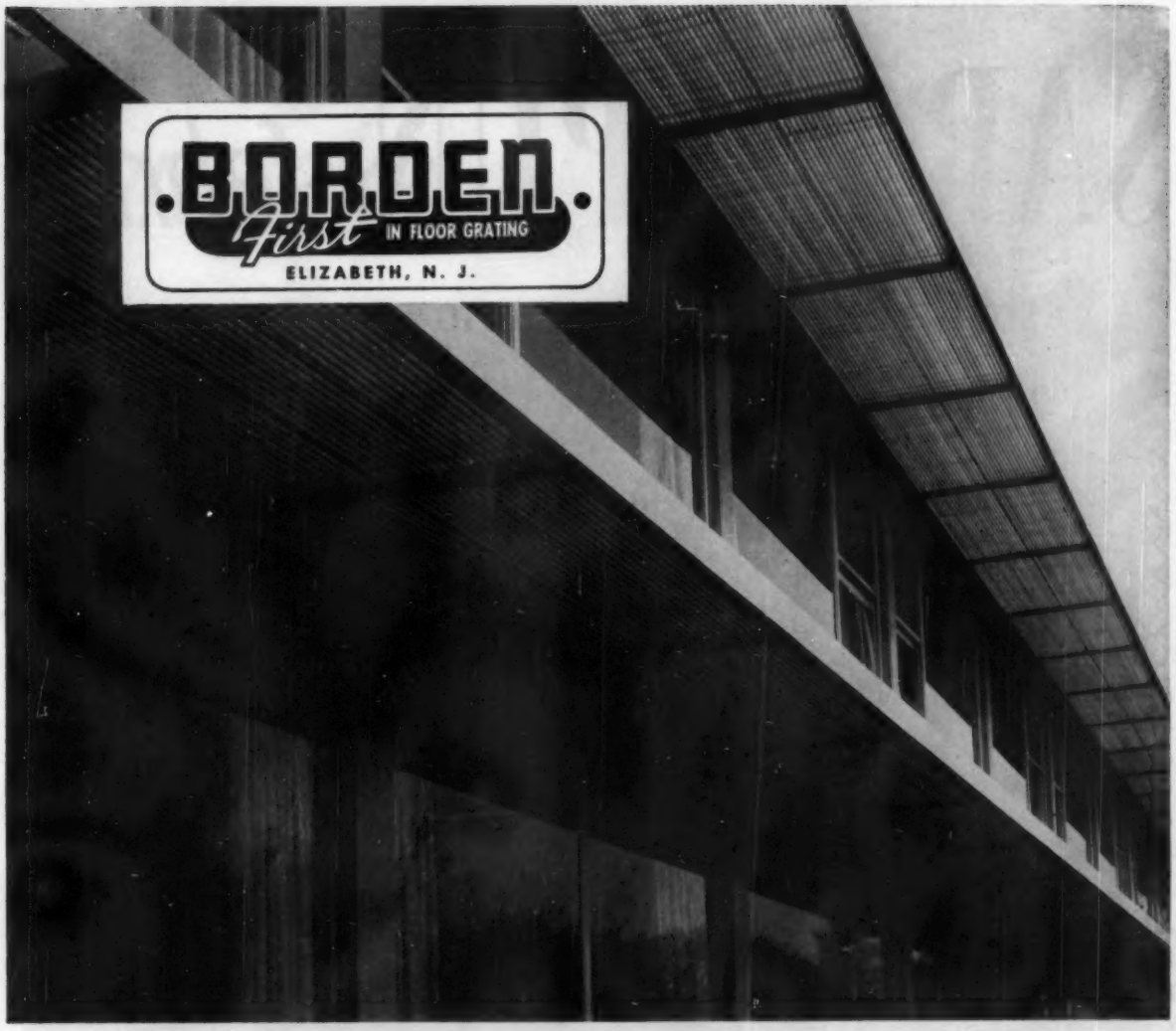
Concordia Senior College, Fort Wayne, Ind., recently dedicated by the Lutheran Church, Missouri Synod. Architects: Eero Saarinen & Associates. General contractors: Hagerman Const. Corp.; Wermuth, Inc.; Grewe Contractor, Inc.

Above: Midtown Plaza, a planned private $15-million redevelopment in downtown Rochester, N. Y., would cover more than seven acres and include an air-conditioned pedestrian mall, underground parking for 2000 cars, underground truck deliveries, and about 300,000 sq ft of retail expansion. Most of the land has been acquired by the Midtown Holdings Corporation, sponsor, whose president is Gilbert J. C. McCurdy, also president of McCurdy's, a large department store, shown expanded and modernized at right. An 18-story office building, left, is also planned; it would include three hotel floors and a restaurant. Architect: Victor Gruen. *Right:* Construction has started on Four Gateway Center in Pittsburgh, being built by the Equitable Life Assurance Society of the United States. The 22-story stainless steel office building is to have 415,000 sq ft; each floor will give 264 by 62 ft of unobstructed space. Elevators and other service facilities are to be in the separate external core. Completion of the building, on the "Golden Triangle," is scheduled for 1960. Architects: Harrison & Abramovitz. General contractor: George A. Fuller Co.

The new 20-story Crown Zellerbach Headquarters Building in San Francisco, above, is expected to be occupied next summer. The landscaped plaza around it, below, will include a pool, 59 by 14 ft, in which will be a large bronze fountain designed by David Tolerton. The circular building is a branch bank. Architects: Skidmore, Owings & Merrill and Hertzka & Knowles. General contractor: Haas & Haynie



Above: Canada House, 26-story, 175,000-sq ft office building in New York, cost $6.5 million. Architects: Eggers & Higgins. General contractor: Walsh Construction Co. Cram, Goodhue & Ferguson's St. Thomas' Church (1913) is at left. *Below:* Completion is planned in 1961 for the First National City Bank of New York's 41-story office building, on Park Avenue next to the Seagram Building, visible at right. Estimated cost is $50 million. Architects: Carson & Lundin and Kahn & Jacobs. Structural engineer: Charles Mayer. Mechanical engineer: Meyer, Strong & Jones. General contractor: George A. Fuller Co.



NEW USE FOR GRATING -- SUN SHADES FOR MODERN SCHOOLS

Light aluminum grating for SUN SHADES on schools is in perfect harmony with modern school design — allows 80% passage of light and air without the accompanying penetrating rays of the sun. Because they are aluminum they are maintenance-free. Furthermore, they provide a permanent working platform for easy access to windows.

Only the finest precision manufacturing would satisfy the architect who designed the school shown here. BORDEN is recognized as a leader in quality custom-manufactured gratings, in ferrous and non-ferrous metals.

Other uses for grating in school design: Areaways, boiler rooms, laboratories, gridiron catwalks in auditoriums and gymnasiums, footscrapers and window guards.

Write for complete
information on BORDEN
All/Weld, Pressure Locked, and Riveted Floor
Gratings in this FREE 8-page catalog

BORDEN METAL PRODUCTS CO.

822 GREEN LANE Elizabeth 2-6410 ELIZABETH, N.J.
PLANTS—UNION, N. J., LEEDS, ALA., CONROE, TEXAS,
BEETON, ONTARIO

BORDEN METAL PRODUCTS CO. W-5

Gentlemen:

Please send me BORDEN Catalog

NAME .....

TITLE .....

COMPANY NAME .....

ST. AND NO. .....

CITY AND STATE .....

SARANSPUN *fabrics*

EXCELLENT FLEX-LIFE ENABLES THEM TO WITHSTAND THE DRUBBING OF WINDS, THE SCUFFING OF VENETIAN BLINDS

Flame-proof!

Easy to drape and fold

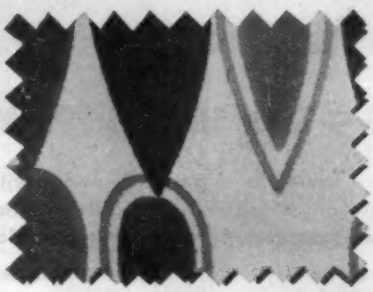
Wash or dry-clean

Long life cuts replacements

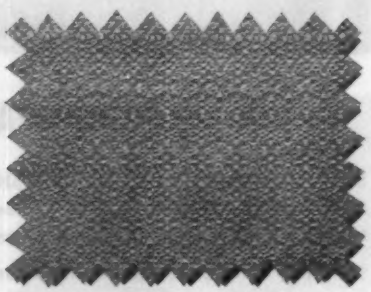
Beating blinds, soaking rains and the general rough treatment that draperies receive in commercial installations, hold no terror for SARANSPUN fabrics. They are incredibly sturdy and resistant to hard wear . . . yet soft and gentle to the touch. Easily workable, they drape and fold beautifully.

SARANSPUN is inherently and permanently flame-proof. It is self-extinguishing and needs no flame-proofing treatment. It is not affected by moisture, has excellent dimensional stability and can be used safely in any climate. It is perfect for seashore installations because it is unaffected by intense humidity. It is mothproof, resistant to mildew, non-toxic and allergy-free.

SARANSPUN may be washed or dry-cleaned according to simple instructions and will retain its luxurious beauty through years of service. It is a natural for long wear and maintenance economy.



Printed Fabrics by
MEAD & MONTAGUE, INC.
NEW YORK



Woven Texture Fabrics by
THE GEORGIA COMPANY
NEW YORK

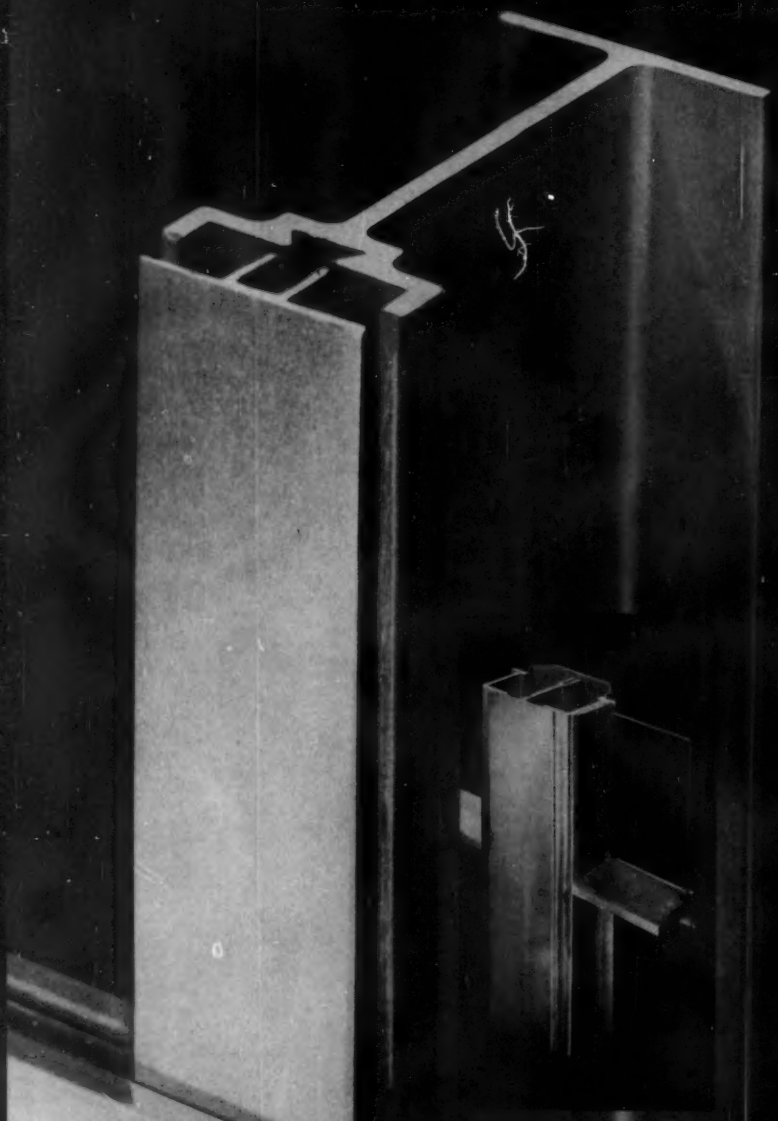
SARANSPUN
TRADE MARK

SARAN FIBERS BY:
THE SARAN YARNS COMPANY
ODENTON, MARYLAND

SARAN yarns

can take a beating

GEYSER CURTAIN WALL



STRENGTH +

When Geyser windows were first introduced in 1939, buildings with greatly extended glass areas were still employing, in metal, the same unit windows and mullions of a much earlier day. In a fresh appraisal of the functions of fenestration and of the characteristics of the new materials, the Geyser system was developed to provide a sturdy aluminum window at moderate cost.

In Geyser construction, the traditional "T" mullion, sash sections and covers have been integrated into a single "I" section. This section has 2 to 3 times more strength and rigidity than composite "T" mullion and sash shapes of comparable weight. "H" shaped horizontals replace "T" muntins with the same increase in efficiency. Because they form a "continuous beam" across their vertical supports, Geyser horizontal members are $2\frac{1}{2}$ to 5 times stronger than "simply supported" muntin bars.

The functional design of each extrusion and its method of membering give Geyser construction superior durability. Sections have flat, non-projecting surfaces without seams or pockets to hold moisture and corrosion-promoting impurities. Glazing compound, in ample quantities, is enclosed by the sections so that leak-proof, maintenance-free life is assured.

The simplified design of Geyser construction provides greater strength and durability at no sacrifice to economy or appearance. Combined qualities of strength, economy, and appearance are assured in Geyser products by a design which makes the optimum use of aluminum and the extrusion process.

E. K. GEYSER CO.

915 McArdle Roadway • Pittsburgh 3, Pa.

See our catalog in Sweet's. Write direct for design assistance and further information.

Meetings and Miscellany

—Drawn for the RECORD by Alan Dunn

North Central A.I.A. Convention

Three hundred forty-five architects, 45 wives, and 170 exhibitors attended the North Central States Regional A.I.A. Conference and 24th annual convention of the Minnesota Society of Architects, held in St. Paul on October 2 and 3.

The proceedings, in the Hotel St. Paul, featured eight seminars on current architectural work whose subjects and architect presenters were: Toronto City Hall Competition, Philip Will, Jr., and Frank Mikutowski; Lutheran Brotherhood Building, Minneapolis, Perkins and Will; St. Peter's Lutheran Church, Minneapolis, Ralph Rapson; Milwaukee Veterans Memorial Building (Eero Saarinen, architect), Maynard W. Meyer of the associate architects; General Mills Building, Minneapolis, John Weese of Skidmore, Owings & Merrill; St. John's University Buildings, Collegeville, Minn., Marcel Breuer; First Lutheran Church, Virginia, Minn., E. A. Jyring of Jyring and Whiteman; new University of Minnesota School of Architecture, John Rauma of Thorshov and Cerny.

In the Minnesota Society of Architects' Second Annual Honor Awards Program, awards were given to: St. Mary's Greek Church, Minneapolis, Thorshov and Cerny; Dormitory, Faribault School, Haarstick and Lundgren; Shepherd House, St. Paul, Ralph Rapson; Girl Scout Camp, Cass Lake, Magney, Tusler & Setter. There also were nine Merit Awards. The jury consisted of Ralph W. Hammett, Harold Spitznagel, and Richard M. Bennett.

A high point in the meeting was the presentation of citations to five professors emeriti of the University of Minnesota for their long service and devoted attention to architectural students. The five were: Frederick Mann, F.A.I.A., Roy C. Jones, F.A.I.A., Leon Arnal, F.A.I.A., Robert T. Jones, F.A.I.A., and Rhodes Robertson, A.I.A.

Distinguished guests present at the meeting included A.I.A. National President John N. Richards (and Mrs. Richards); Alfred Bendiner, F.A.I.A.; and Ned Axt, all of whom gave stimulating talks.

New officers of the Minnesota Society elected were: Clair Armstrong, Minneapolis, president; George Townsend, St. Paul, vice president; Kenneth Backstrom, Minneapolis, secretary; Milton Bergstedt, St. Paul, treasurer.

—James S. Hornbeck

New England Architects Meet

The New England Regional Council of the A.I.A. met September 12-14 at the Motor Hotel in Bar Harbor, Maine; the gathering numbered about 90 people, including architects and their wives from all six New England states. Also present were members of the New Brunswick and Nova Scotia Royal Architects Institute of Canada with their wives and John Noble Richards, president of the A.I.A., and his wife.

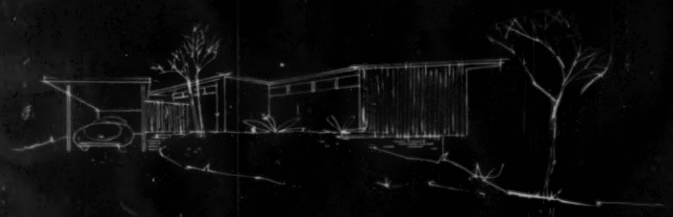
The meeting got underway Friday with dinner and a talk by Dr. C. Harry Atkinson on "Building and Equipping for Christian Education." Robert Denny then presented the first showing of a new film, "A Place to Worship"; the film was developed by the A.I.A. and the *Saturday Evening Post* for public relations purposes.

Saturday morning got off to a good start with a business meeting of the New England Regional Council delegates followed by a panel discussion on "Religious Art and Liturgical Requirements in the Design of Religious Buildings." The panel members were: Maurice Lavanoux, Liturgical Arts Society, New York; Dr. Arland A. Dirlam, architect, Boston; Willis N. Mills, architect, Sherwood, Mills & Smith, Stamford, Conn.; Dr. C. Harry Atkinson, editor, *Protestant Church*, New York. The moderator was Walter Campbell, Boston architect.

The evening was devoted to the banquet, at which Alonzo J. Harriman, the new Regional Director, presided. John Noble Richards introduced our Canadian guests. Maurice Lavanoux gave us a most interesting talk on "The Evolution of Religious Art and Architecture in Many Lands."

Sunday, some people made tours of the island before returning to their homes. We were blessed with beautiful fall weather.

Philip A. Gatz, Chairman,
New England Regional Council
Fall Meeting

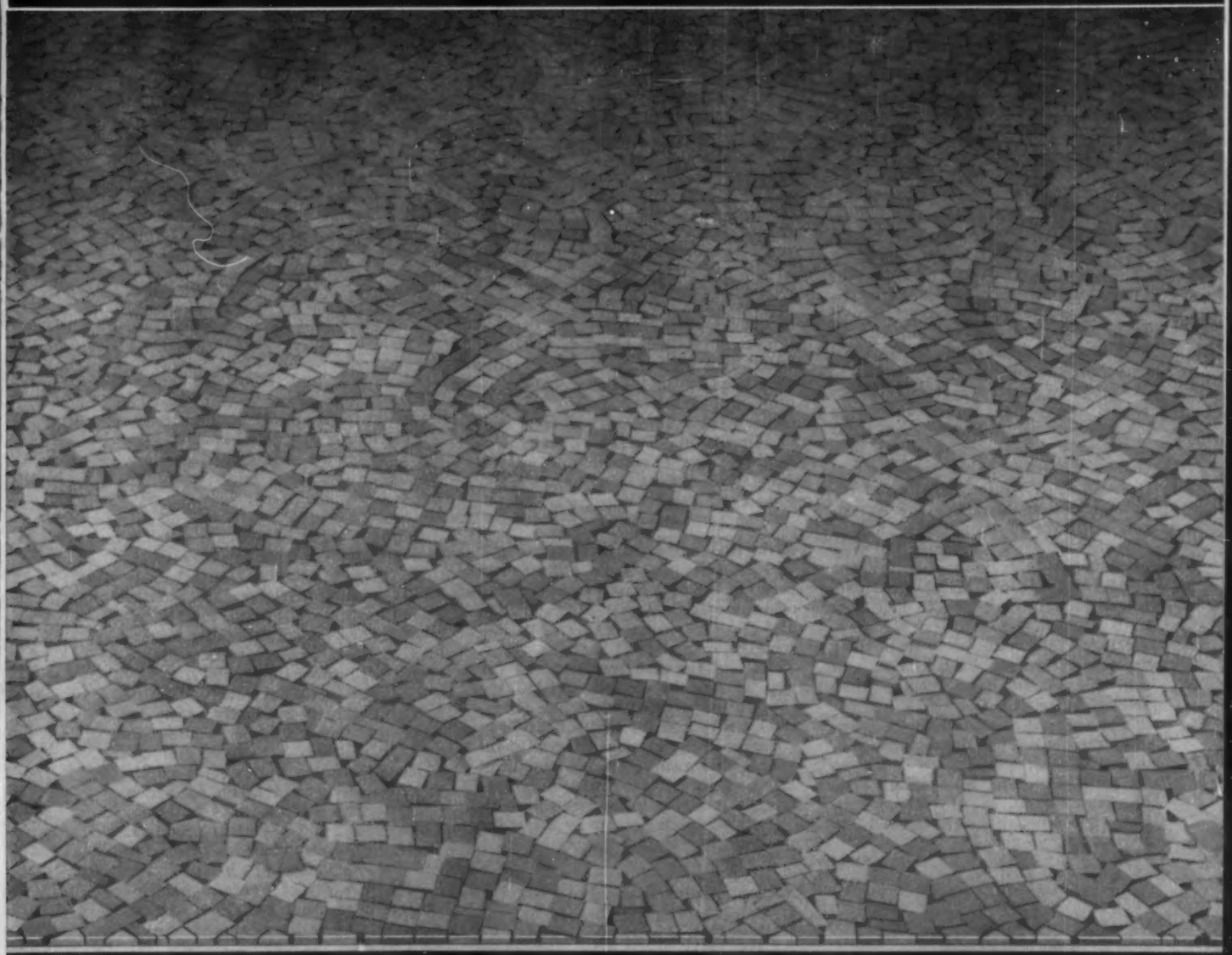


for fine residences

A revolutionary new kind of vinyl floor: the Tessera* Series in Armstrong Vinyl Corlon. This elegant heavy gauge sheet flooring is truly a universal floor; "Tessera" meets the aesthetic and functional requirements of every type of interior. And it can be installed on subfloors at any grade level.

* tă-SAIR'-ă

and commercial areas



Color chips are actual size in foreground of photo. Translucent vinyl grouting gives three-dimensional look to an actually smooth surface. White line beneath chips is alkali-resistant Armstrong Hydrocord Back.

Technical data on the Tessera Series in Armstrong Vinyl Corlon

(for samples and complete specs, contact the Architectural-Builder Consultant at your Armstrong District Office)

composition: chips are tinted, opaque vinyl; grouting is translucent vinyl; **surface resistance:** excellent for grease, alkalis; very good for solvents, detergents; **ease of maintenance:** superior; **static load limit:** 75 lbs. per sq. in.; **underfoot comfort and quietness:** good; **over-all thickness:** .090"; **wearing-surface thickness:** .058"; **available in:** seven monochromatic styles, in 6' wide rolls; **installed price:** 75-90¢ per sq. ft.

The exclusive, alkali-resistant Armstrong Hydrocord Back permits "Tessera" to be used over below-grade and on-grade subfloors, as well as above grade. "Tessera" may also be installed over lightweight aggregate concrete slabs.

Armstrong FLOORS

Producers' Council Meets

The 37th annual meeting of the Producers' Council, Inc., in Miami, September 17-19, was the kick-off for a major distribution process study aimed at lowering the cost of marketing construction products. The effort is headed by Robert W. Lear, American Radiator and Standard Sanitary Corp., who is chairman of the Council's distribution study committee. Committee meetings are working out details.

With "Dynamics of Distribution" as its theme, the convention at the new Dupont Plaza Center focused attention on the theoretical as well as the actual problems of distributing manufactures and left most of the delegates with the feeling their concerns could profit by adaptation of some of the techniques outlined.

A P.C. Chapter Officers' Conference, running concurrently with the distribution conference, proved again to be the annual opportunity for chapter executives to exchange ideas and brush up on good operating procedure. The chapter officers were told by Walter A. Taylor, director of education and research for the American Institute of Architects, that in this day of highly complex building technology, it is necessary for the architect to absorb all possible useful outside information to help him with his professional task. Mr. Taylor urged the producers to train their representatives to "think, act, and talk like consulting engineers" when selling to architects.

The Council elected H. Dorn Stewart, president of the Barrett Division, Allied Chemical Co., New York, as its new president, succeeding Fred M. Hauserman, E. F. Hauserman Co., Cleveland, who had served for two years.

—*Ernest Mickel*

A ceremonial mace, commissioned by the Class of 1957 of Adelphi College, Garden City, N. Y., and recently presented to the president. Sculptor Robert Cronbach, assistant professor of art at the college, designed and executed the mace, which is more than six ft high. The wings and seal are polished brass, the staff polished mahogany, the base, black wood

I.I.T. Names Acting Director

Illinois Institute of Technology in Chicago announces the appointment of Reginald F. Malcolmson as acting director of and associate professor in the department of architecture, following the retirement of the former director, Ludwig Mies van der Rohe. Mr. Malcolmson, who was educated and practiced architecture in Ireland, is an associate in the R.I.B.A. He came to this country in 1947 to study with Mr. Mies and received an M.Arch. degree from I.I.T. He joined the faculty in 1949 and was appointed assistant to Mr. Mies in 1953.

Architectural Photos Needed

The American Institute of Architects is planning its third exhibition of architectural photography, to be selected by a jury of three from prints submitted by photographers. The exhibit will be shown in the A.I.A.'s Gallery early in 1959 and then will be circulated. Entries, due by November 10, should be sent to Mrs. Alice G. Korff at the A.I.A., 1735 New York Ave., N.W., Washington 6.

First Rasch Award to Gropius

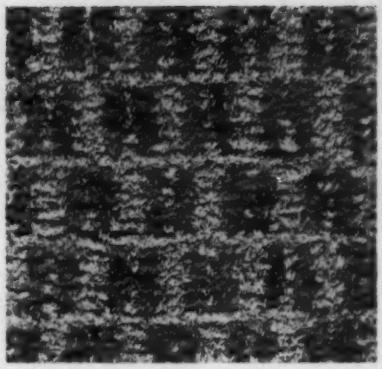
Walter Gropius, F.A.I.A., recently received the first Rasch Award at the opening of an exhibition, "Fine Arts and Design," in the galleries of Associated American Artists, New York. Dr. Gropius was honored for his "significant contribution to the integration of creative art and industrial utility and for his dedication to a higher living standard for all mankind." The award, founded by Emil Rasch, head of a German wallpaper firm, is intended to be given periodically. Dr. Rasch personally made the presentation to Dr. Gropius.

Magenau Joins A.I.A. Staff

Eugene F. Magenau has joined the staff of the American Institute of Architects as director of professional relations. He succeeds Byron C. Bloomfield, now with the M.B.S.A. (AR, Oct. '58, p. 25). Mr. Magenau, from Concord, N. H., is a member of Lyford & Magenau there.

Scheick Now With T.E.C.O.

William H. Scheick recently was appointed vice president-research and development for the Timber Engineering Co., research-engineering affiliate of the National Lumber Manufacturers Assn. He succeeds Carl A. Rishell, soon to retire. Before joining T.E.C.O., Mr. Scheick was for nine years executive director of the Building Research Institute and Building Research Advisory Board.



"Blush," carpet design by Liisa Suvanto, won first prize in the design competition conducted in Finland by the Bigelow-Sanford Carpet Co., Inc., in cooperation with the Finnish Society of Crafts and Design. The colors are bright orange, vermilion, and pink

At B.R.I. and B.R.A.B., meanwhile, a temporary administrative setup, until there is a definite replacement for Mr. Scheick, puts Milton S. Coon, Jr., and Robert M. Dillon in the top spots, respectively, of the two organizations.

Building Center in Georgia

The Architects and Engineers Institute, Inc., of Atlanta, Ga., celebrated its second birthday last month. The Institute is owned and sponsored by the Georgia Chapter, American Institute of Architects, and the Georgia Engineering Society.

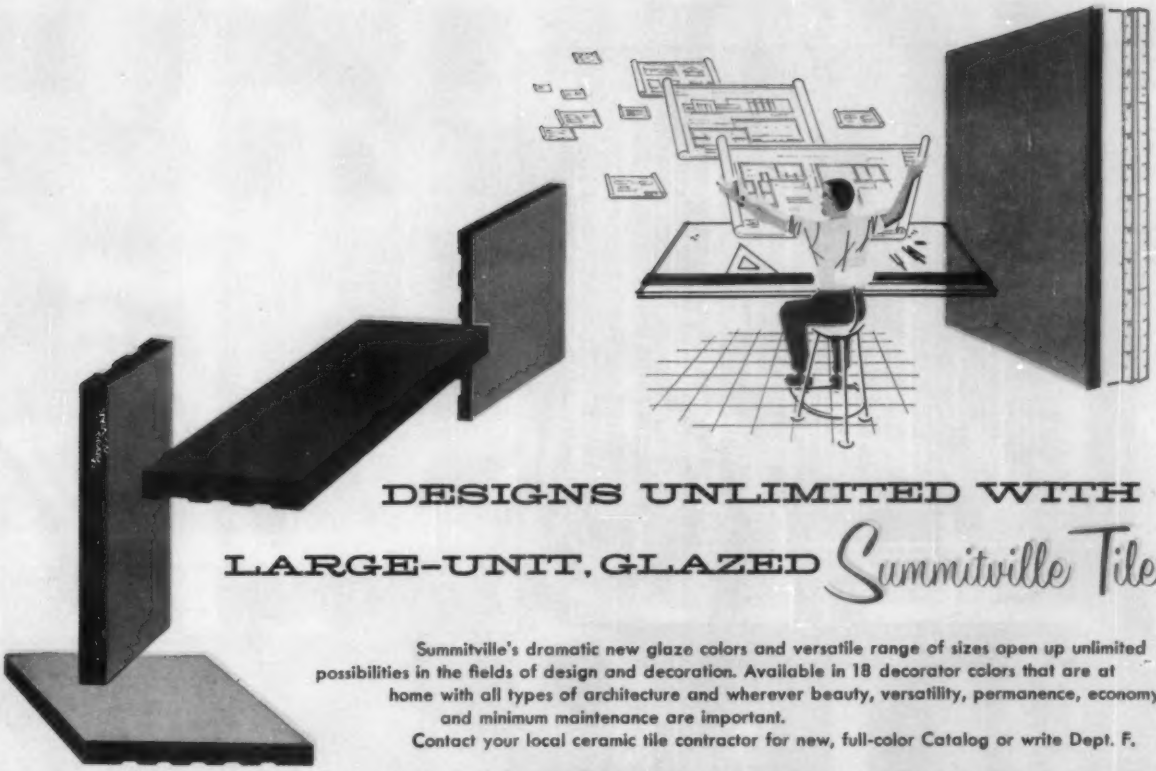
The Institute's four-story, 80,000-sq ft building is gradually becoming a regional center for the building industry; not only architects and engineers, but also the general public visit the structure, much of which is rented to exhibitors of building, engineering, and electrical products. The building also contains offices for the two sponsoring groups, the Georgia Society of Professional Engineers, and other societies; a technical reference library; and dining facilities.

The Institute, a non-profit organization, is governed by a nine-member board, four each from the two sponsors and a lawyer who is legal counsel. Three ex officio board members are the presidents of the two sponsors (Clement J. Ford is president of the Georgia Chapter, A.I.A.) and an Exhibitors' Association representative.

Cuban Medal to Neutra House

The De Schulthess house in Havana, presented in the October issue of AR (pp. 187-188), was recently awarded a gold medal by the Cuban Institute of Architects. The architect was Richard J. Neutra.

continued on page 352



DESIGNS UNLIMITED WITH LARGE-UNIT, GLAZED *Summitville Tiles*

Summitville's dramatic new glaze colors and versatile range of sizes open up unlimited possibilities in the fields of design and decoration. Available in 18 decorator colors that are at home with all types of architecture and wherever beauty, versatility, permanence, economy and minimum maintenance are important.

Contact your local ceramic tile contractor for new, full-color Catalog or write Dept. F.

FROSTPROOF GLAZED QUARRY TILE is rugged and beautiful. It is water-proof, frost-proof and practically maintenance-free, making it the ideal surface for exterior walls, swimming pools, heavy-duty wainscoting and feature walls. Available in 2¼ x 8 x ¾, 6 x 6 x ½, 6 x 6 x ¾, 3⅞ x 8 x ¾, 3⅞ x 12 x ¾.

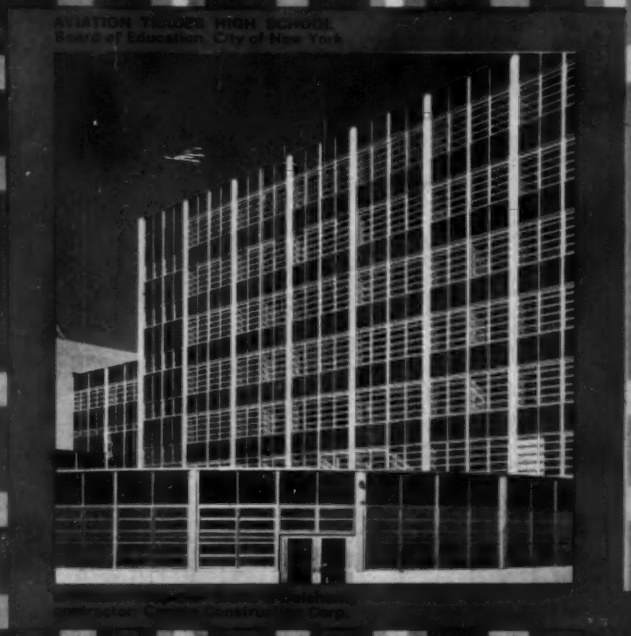
LARGE-UNIT 12-VENEER is the sensational, genuine ceramic, large-unit tile that answers the demand for a unit that installs easily and reduces the number of grout lines. This 11⅞ x 11⅞ x ⅜ tile is perfect for feature walls, wainscoting, or wherever interior tile is specified.

Summitville Tiles, Inc.

SUMMITVILLE, OHIO

GLAZED QUARRY TILE · FLOOR BRICK · 12-VENEER · QUARRY TILE

MEMBER • TILE COUNCIL OF AMERICA


AVIATION TRADES HIGH SCHOOL
Board of Education, City of New York

CURTAIN WALL ... TOTAL RESPONSIBILITY

For thirty years, ALBRO has shouldered **total responsibility** for every phase of engineering, fabricating and installing architectural metalwork. Since curtain wall has come of age, ALBRO has offered the architect a complete service for developing and installing **his** system to **his** precise specifications ... no matter how large or small the project. As ALBRO has proved in the projects shown here, and many others, extensive metal engineering know-how and pride in workmanship make the difference that counts.

AMP

ALBRO METAL PRODUCTS CORPORATION
944 Longfellow Avenue
New York 59, New York

A Washington Report by Ernest Mickel

FOREIGN BUILDINGS PROGRAM: 11 PROJECTS COMPLETED, 29 UNDER WAY, 16 IN DESIGN

Eleven of the 16 new building projects in the program of the State Department's Office of Foreign Buildings have had their architects approved and are moving into the design stage under the same guiding principles that have motivated two score earlier buildings in this continuing plan. Eleven projects in the program have been completed.

Congress voted the same amount of money for the current year's operations in OFB—$18.5 million—as it did for the last fiscal period. Considering inevitable attrition due to inflationary pressures, this means that the fiscal 1959 program cannot stay at the same level as that of 1958, but will fall back a little. The Department has no means of measuring the exact losses occurring from inflation, but it knows they are there, hobbling the program to some extent.

Here is the list of new projects in the program by location, building and architect, on which architects have received final approval:

Algiers, Algeria—office building; John Lyon Reid, San Francisco.

Canberra, Australia—annex to office building; Milton L. Grigg, Charlottesville, Va.

Dublin, Ireland—office building; John Johansen, New Canaan, Conn.

Fukuoka, Japan—office building; Hervey Parke Clark and John F. Beuttler, San Francisco.

Mexico City—embassy office building; Southwestern Architects-Engineers, Austin, Tex.

Niagara Falls, Canada—office building and residence; Thornton Ladd & Associates, Pasadena, Cal.

Saigon, Vietnam—office building; Nathaniel C. Curtis Jr., and Arthur Q. Davis, New Orleans.

São Paulo, Brazil—office building; Mies van der Rohe, Chicago.

Singapore—office building, A. Quincy Jones and Fred E. Emmons, Los Angeles.

Taipei, Taiwan—office building; Walter E. Campbell and Nelson W. Aldrich, and Lawrence B. Anderson, Herbert L. Beckwith, and William E. Haible, all of Boston.

Warsaw, Poland—office building and staff housing; Welton Becket and Associates, Los Angeles.

Other current projects on which architects have not yet been approved finally, but where selected architects are visiting sites, include an embassy office building at Montevideo, Uruguay; a consulate office building and residence at Palermo, Sicily; an embassy office building annex at Ottawa, Canada; a consulate office building and staff apartments at Rotterdam, The Netherlands; and a consulate office building and staff housing at Tabriz, Iran.

The final selection of architects and the approval of design in this program of building acquisition abroad lies with the State Department; but since 1953 an advisory commission of private architects has been an important part of this selection and approval. Furthermore, the program's architectural objectives have since then reflected the philosophy set out by an original panel member, Pietro Belluschi, dean of the School of Architecture and Planning at Massachusetts Institute of Technology, who wrote in part:

"To the sensitive and imaginative designer [the building] will be an invitation to give serious study to local conditions of climate and site, to understand and sympathize with local customs and people, and to grasp the historical meaning of the particular environment in which the new building must be set. He will do so with a free mind without being dictated to by obsolete or sterile formulae or clichés, be they old or new; he will avoid being either bizarre or fashionable, yet he will not fear using new techniques or new materials, should these constitute real advances in architectural thinking.

"It is hoped that the selected architects will think of style not in its narrower meaning, but as a quality to be imparted to the building, a quality reflecting deep understanding of conditions and people. His directness and freshness of approach will thus have a distinguishable American flavor.

"The committee feels that if the above philosophy is adhered to, we need not fear criticism; on the other hand, if we act timidly, solely in the hope of avoiding any and all criticism from whatever quarters, we shall surely end up in dull compromises, with the result that we shall have nothing but undistinguished buildings to represent us abroad. We would thereby have forfeited our opportunity to display the high American cultural achievements in the field of architecture generally recognized by architects of the more advanced nations of the world."

The membership of the advisory commission is a changing one with the appointees rotating singly from time to time. The present panel consists of Eero Saarinen, Bloomfield Hills, Mich.; Edgar Williams, New York; and the latest member appointed, William Wurster, dean of the College of Architecture, University of California, Berkeley. Mr. Wurster succeeded Richard Bennett, Chicago.

The panel last met in May this year and at this writing was tentatively scheduled to convene again in October. It reviews all aspects of the program and advises the State Department on the many architectural phases of building abroad.

There has been general agreement since the panel was organized and the program has taken shape under its guidance that the arrangement constitutes the most successful of its kind in government. The American Institute of Architects at its Centennial Convention in Washington, D. C., on May 19, 1957, conferred on the Office of Foreign Buildings a Citation of Honor recognizing the excellence of this undertaking.

To help the selected architect adapt his design to the site, the State Department sends each man to visit the location before he starts design, and the architect may make a second visit during the construction of his building.

The eleven OFB structures which now have reached the stage of completion and occupancy are:

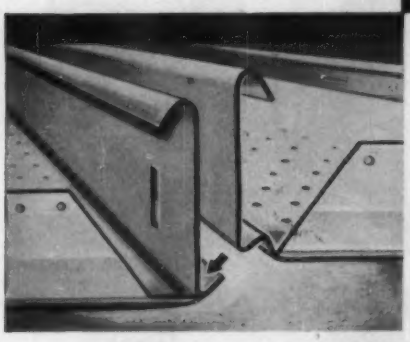
Hong Kong, office building; Kobe, Japan, office building and staff housing: Bangkok, Thailand, staff apartments; Lagos, Algeria, office building and staff housing; Accra, Ghana, West Africa, office building and staff housing; New Delhi, India, office building and staff housing; Leopoldville, Belgian Congo, office building and staff apartments; Djakarta, Indonesia, office building; Tegucigalpa, Honduras, residence and office building; Nagoya, Japan, office building and staff housing; and Basra, Iraq, office building and residence.

Exclusive self-locking panels keep

Eastern Products Corporation

SILENT CEILING

LEVEL-PERFECT



Panel "locking-lip" guarantees a micro-smooth ceiling unaffected by vibration.

Thanks to Eastern's advanced engineering, no other acoustical system ever offered so many unique advantages to the architect. When you specify "Silent Ceiling," your ceiling problems disappear.

Alignment is no problem! Eastern's all-metal panels lock themselves together perfectly, permanently.

Room height is no problem! Eastern's self-contained suspension hugs any type of ceiling construction.

Installation is no problem! Eastern's longer modules, as long as 12 feet, can be installed with maximum ease and speed. Sound-absorbing pads are fully pre-fitted into the panels.

Maintenance is no problem! Eastern's baked-enamel finish won't stain or discolor. Panels stay level-perfect. The entire system rates Class A in flame resistance, high in efficiency.

Write for detailed specifications and prices.

Eastern

Acoustical Division, Eastern Products Corp.,
1601 Wicomico St., Baltimore 30, Maryland.

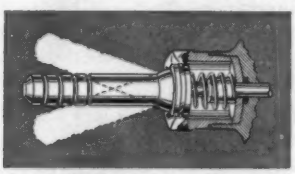
All-new, all-metal, all-in-one "Silent Ceiling"... more sound control for less!

KOHLER
Metro
PISTON-TYPE FLUSH VALVE
with advantages you can sell

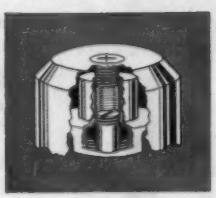
You can recommend and install the trim, attractive Metro with confidence that it will give the reliable performance expected from all Kohler products. It has been tested through service with thousands of closet and urinal installations.

For public, commercial and industrial washrooms

Easy to operate



Light pressure on the handle from any direction trips valve for normal, positive flush and refill.



Simple to adjust

Easily accessible screw regulates volume and duration of flush, for efficiency, water economy.

Thorough action

Surge of water through the passageways an instant before each flush insures fast, complete cleansing.

Prevents water waste

Flushing cannot be prolonged by continued hand pressure or by wedging the handle. Cap and flush handle are sealed by O-rings.

All brass

Entire unit is genuine brass, chrome-plated. Brass has maximum resistance to wear and corrosion.

Available with or without vacuum breaker.

KOHLER CO. Established 1873 KOHLER, WIS.

KOHLER OF KOHLER

Enameled Iron and Vitreous China Plumbing Fixtures • Brass Fittings • Electric Plants • Air-cooled Engines • Precision Controls

WASHINGTON, D.C. *In 1791, Major Pierre Charles L'Enfant, a young French engineer, stood on the banks of the Potomac with George Washington and envisioned the world's most beautiful capital. L'Enfant's original conception of stately buildings set in a sculptured vista, converging tree-shaded avenues and magnificent memorials has become a reality that has earned world renown. The Nation's city, loved and honored for its eminence, stands as an inspiring symbol of the dignity and vigor of American democratic government. OTIS is justly proud that it has fulfilled 57% of the Capital's requirements for vertical transportation. Here again, OTIS won preference because of the design leadership and outstanding value that have made OTIS the Nation's word for elevator quality.*

OTIS ELEVATOR COMPANY
260 11th Avenue, New York 1, N. Y.
Offices in 501 cities around the world

AUTOTRONIC® OR ATTENDANT-OPERATED PASSENGER ELEVATORS • ESCALATORS • TRAV-O-LATORS • FREIGHT ELEVATORS • DUMBWAITERS
ELEVATOR MODERNIZATION & MAINTENANCE • MILITARY ELECTRONIC SYSTEMS • GAS & ELECTRIC TRUCKS BY BAKER INDUSTRIAL TRUCK DIVISION

Baker industrial trucks

News from Canada by John Caulfield Smith

NEW CAMPUS DEVELOPMENT UNDER WAY FOR OTTAWA'S CARLETON UNIVERSITY

Carleton University, founded in 1942 in a residential section of Ottawa, has obtained and begun development of a 130-acre tract of land for a new campus. A special group of architects formed for the project and known as "Architectural Associates for Carleton University" is composed of Watson Balharrie of Ottawa (Balharrie, Helmer and Morin); Hart Massey of Ottawa; Prof. John Bland of Montreal (director, School of Architecture, McGill University); Prof. Eric Arthur of Toronto (School of Architecture, University of Toronto); and Campbell Merrett of Montreal (Barott, Marshall, Merrett and Barott). Adjeleian, Goodkey, Weedmark and Associates Ltd. of Ottawa are the consulting engineers for structural, mechanical and electrical work.

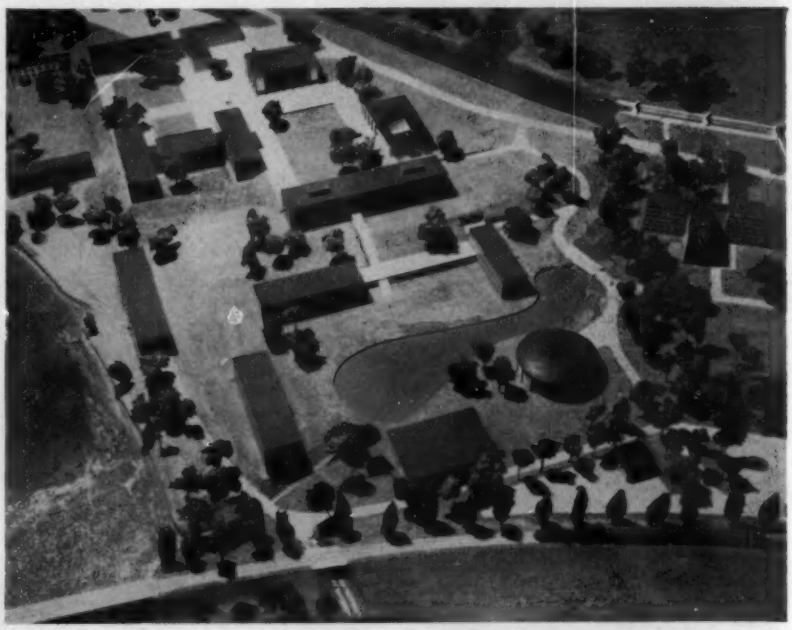
Development of the site, which is bounded on two sides by the Rideau River and the Rideau Canal, has been influenced by the natural contours of the land—a high area, with three abrupt changes of level, will become the focal point of the campus. Some 65 acres are level and will be used for athletic facilities and, if necessary in years to come, for some buildings.

The master plan anticipates an eventual enrollment (in 50 years or more) of between 5000 and 6000 students (from 700 full daytime students and 1400 part-time evening students in 1957-58); and the development is planned so that at several interim stages the campus will present a harmonious and finished appearance.

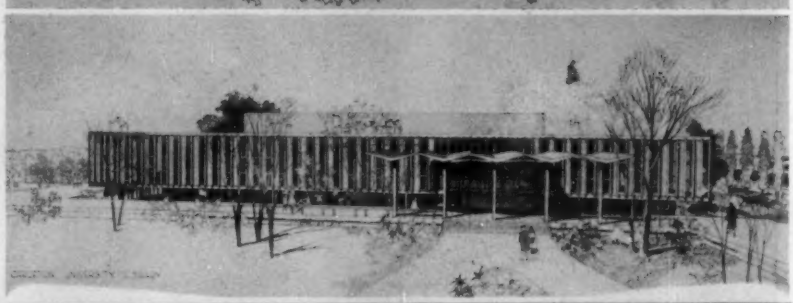
In the first stage, now under way, the Main Court will be created. It is planned to accommodate the entire college up to an enrollment of 2000, which is considered possible by 1965. Subsequent expansion will create an Arts Court, the lower level colleges, a Bywash Water Court and a Northern Extension.

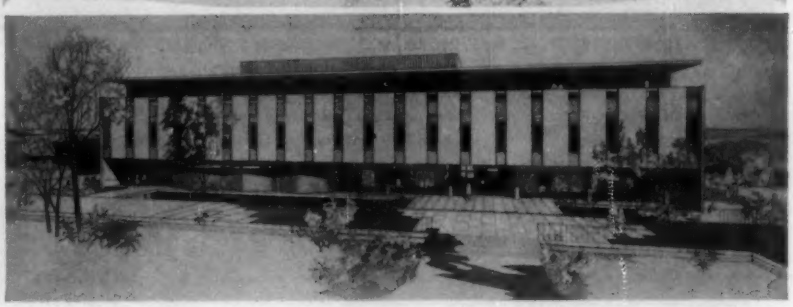
Three buildings (shown in photos of renderings at right) are now under construction on the Main Court —the Henry Marshall Tory Building for Science; the Maxwell MacOdrum Library; and the Arts Building. The first two of these buildings will be completed during this academic year, when the entire college will be moved from its present cramped quarters.

Other major buildings contemplated within the next few years, though not yet fully planned, include a student union, to make a fourth building on the main court, an administration building and additional athletic facilities.



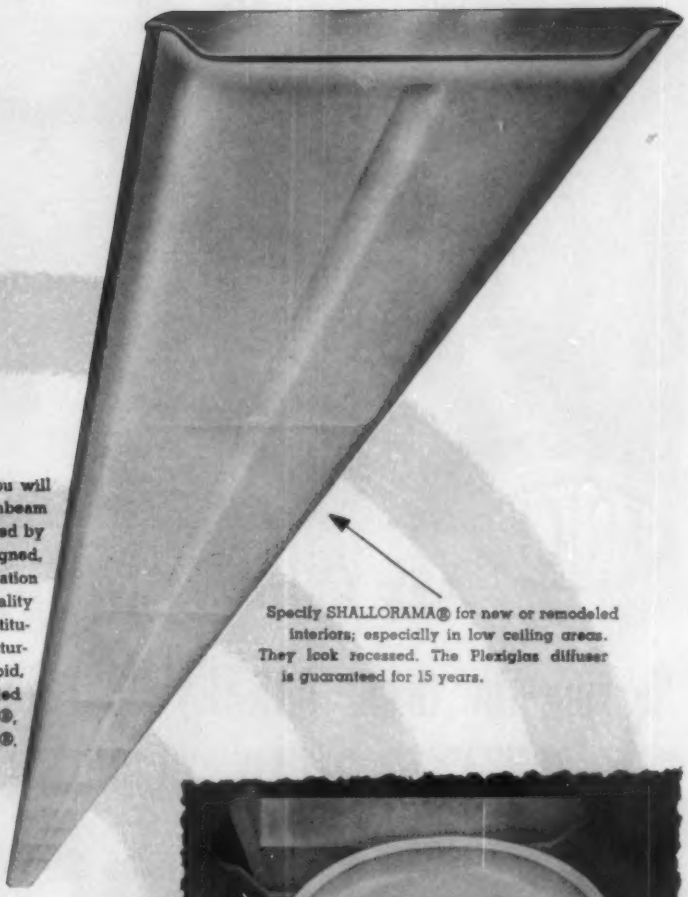
Above: photo of section of master plan model showing (background) Main Court, where three buildings shown in photos of renderings below are under construction. Architectural Associates for Carleton University (see story) are architects for all. 1. Science Building, estimated cost about $1.5 million; general contractor, George A. Crain & Sons Ltd. 2. Library Building, estimated cost about $1 million; general contractor, Doran Construction Co. Ltd. 3. Arts Building, estimated cost about $1 million; general contractor, Queensview Construction and Development Ltd.





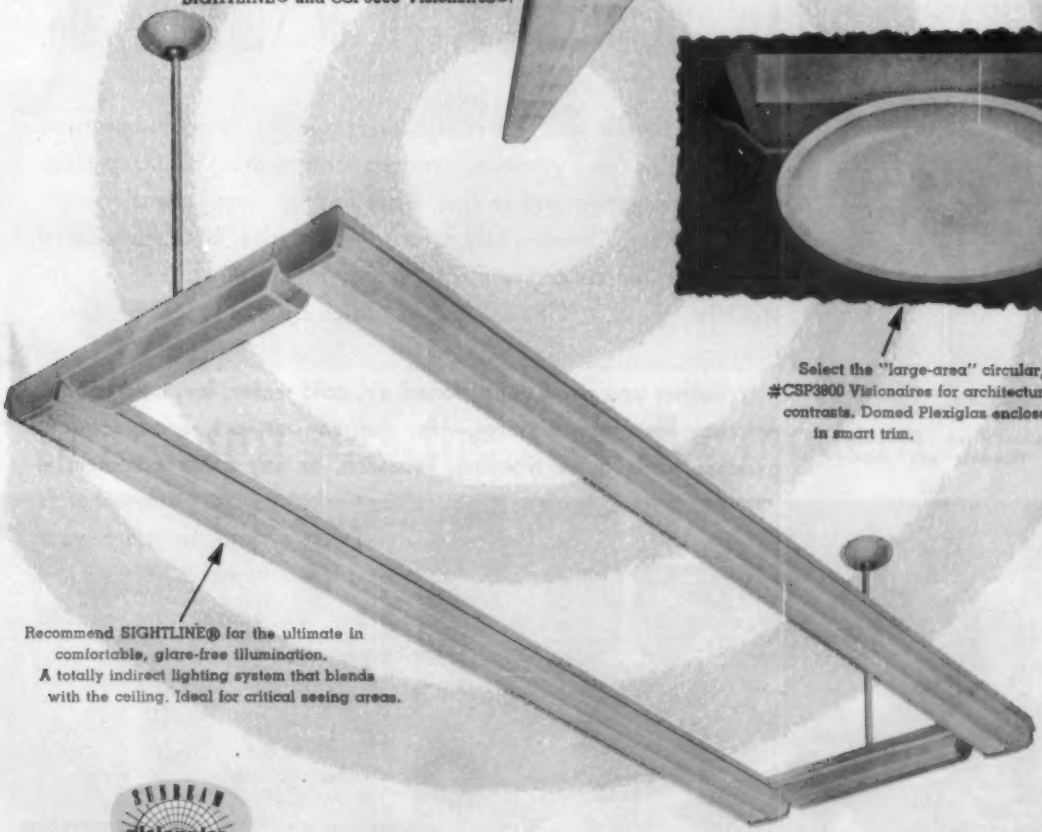
YOU CANNOT MISS

In your aim to obtain better lighting for better vision you will get a bull's-eye every time that you specify or select Sunbeam Lighting. Your chances of direct hits are greatly enhanced by the following factors: 1. All Sunbeam Visionaires® are designed, engineered and test-proven to produce specific illumination results. 2. You can choose from the largest line of quality luminaires in the country for almost every commercial, institutional and industrial application. 3. Two complete manufacturing facilities are strategically located to provide rapid, nation-wide deliveries. Typical of the many modernly styled and easy to install fixtures are the SHALLORAMA®, SIGHTLINE® and CSP3800 Visionaires®.



Specify SHALLORAMA® for new or remodeled interiors; especially in low ceiling areas. They look recessed. The Plexiglas diffuser is guaranteed for 15 years.

Select the "large-area" circular, recessed #CSP3800 Visionaires for architectural contrasts. Domed Plexiglas enclosed in smart trim.



Recommend SIGHTLINE® for the ultimate in comfortable, glare-free illumination. A totally indirect lighting system that blends with the ceiling. Ideal for critical seeing areas.

SUNBEAM Visionaire LIGHTING COMPANY

Sunbeam Lighting Company, 777 East 14th Pl., Los Angeles 21, California

Gary, Indiana

FRICK

Air Conditioning & Refrigeration

Serving the Great BARNES HOSPITAL . . . WASHINGTON UNIV. MEDICAL CENTER at St. Louis, Mo.

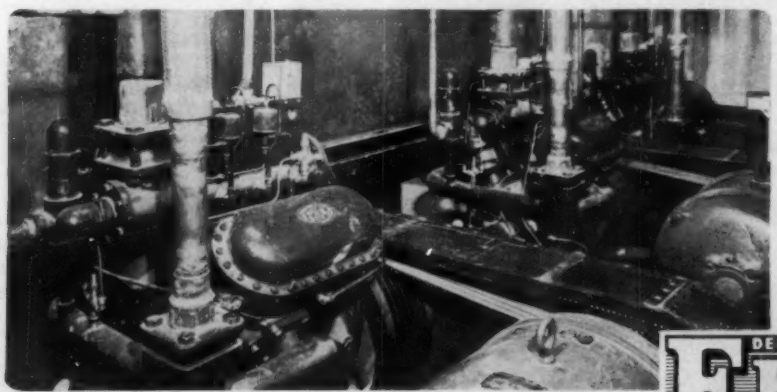
7½-Ton Frick unit air conditioner serving four research and lecture rooms.

Here 11 Frick unit air conditioners and 42 Frick compressors supply the necessary cooling services for operating rooms, private rooms, auditorium and chapel, class rooms, nurse-interns' dormitories, offices, libraries, laboratories, cafeterias, kitchens, special freezers, research departments, morgues, animal rooms, etc. Installation by L. V. Fleiter Co., Inc., Frick Distributors in St. Louis, Missouri.

Whether you need conditioned air, cold water, ice, cold rooms, or very low temperatures,—for human comfort, food service, process work, quick freezing, research, or any other commercial or industrial purpose,—there's a Frick system to meet your exact requirements.

Let us quote now on the equipment you need.

Write . . .
wire . . . phone or visit.



Three Frick "ECLIPSE" compressors which air condition several operating rooms at Barnes Hospital, St. Louis.

DEPENDABLE REFRIGERATION SINCE 1882

FRICK CO.

WAYNESBORO, PENNA., U. S. A.

Aluminum sets the style for modern interiors

INTERIOR: Lincoln Federal Savings & Loan office, Berwyn, Ill.
ARCHITECT: Frank Velat, Berwyn, Ill.
PARTITIONS: The Mills Company, Cleveland, Ohio

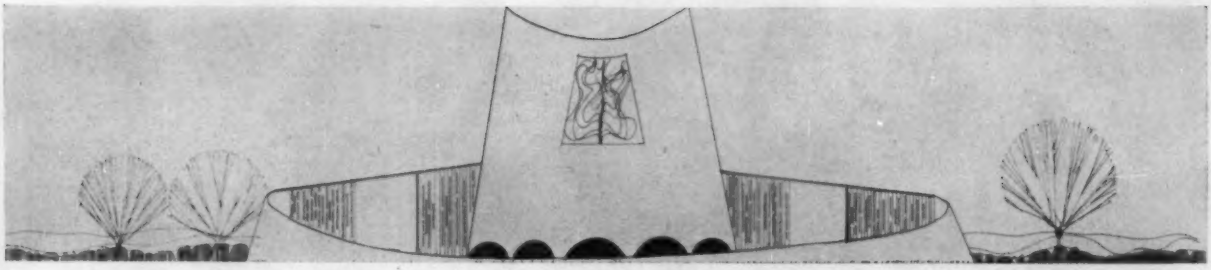
Never was aluminum more handsome than in partitions now being used for interior walls of all kinds . . . partitions made of Alcoa® Aluminum. *The architect's metal* not only brings distinctive modern beauty to this application, but great flexibility of design as well. Panels in a wide range of materials can be used—wood, fused or clear glass, and anodized aluminum with its attractive patterns and colors. Practical, too! With one system, for instance, it is easy to dismantle and reassemble at any point in a wall.

If you want to specify them on your next job, the nearest Alcoa sales office can help. Call for complete technical information . . . or if you prefer, write Aluminum Company of America, 1880-L Alcoa Building, Pittsburgh 19, Pa.

WE CHOSE ALCOA ALUMINUM MILL PRODUCTS

Your Guide to the Best in Aluminum Value

ALCOA THEATRE
Fine Entertainment, Alternate Monday Evenings



BOGEN MEANS SOUND FLEXIBILITY

When you specify a Bogen school sound system, you insure that teachers and students will have more usable facilities for immediate and future needs. Bogen features include classroom change signals, fire-alarm siren, emergency announcement, and telephone or speaker intercom—all easily installed as part of the centralized system.

START WITH A SINGLE CHANNEL, inexpensive system to distribute one program at a time from the built-in radio or record player (or voice) to any or all of up to 80 rooms.

ADD TWO-WAY INTERCOM, either as part of the original channel, or as an independent channel of its own. The independent channel can also be used as a second program channel.

ADD MORE CLASSROOMS AND FUNCTIONS. Bogen systems can serve up to 180 rooms, and may include three channels, a tape recorder, separate AM and FM radios, and even connect to independent auditorium or gymnasium sound systems and a new, unique vandal alarm system. Write for complete details on centralized school sound systems today!

DAVID BOGEN CO., PARAMUS, N. J. • A DIVISION OF THE SIEGLER CORPORATION

Bogen
SOUND SYSTEMS

David Bogen Co., Paramus, New Jersey, Dept. J-11

Please send me your complete 16-page catalog on Centralized Sound Systems. I am an architect____, consulting engineer____, elec. engineer____.

Name____

Address____

City____ State____

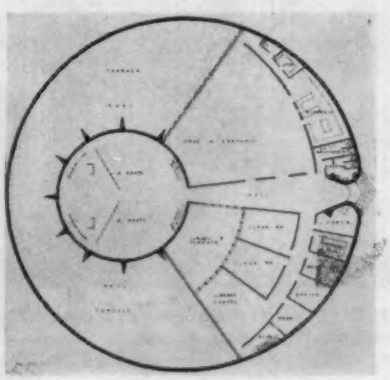
Manufacturers of High-Fidelity Components, Public Address and Intercommunication Systems

Beth-El Synagogue Designed As "Oasis" of Tradition

To be built at an estimated cost of about $90,000, this contemporary concrete structure for Beth-El Synagogue, Oakville, Ont., represents its architects' effort to "return to the simplicity of the original eastern temples, which stood like oases in the community, protected from secular intrusion by a high wall." A. Bruce Etherington and Associates are the architects.

The building will be one story, with a balcony in the sanctuary. It will include facilities for religious education and social functions; and the plan will permit carrying on several functions simultaneously without interference. Total area is about 8000 sq ft. Relationship between the interior and the surrounding walled garden is an important aspect of the design; sliding doors will give access from interior to garden.

Walls are reinforced concrete and concrete block. Roof is built-up felt and gravel, with plastic dome over the sanctuary. Heating is zoned forced warm air.



economical *Streamline*® DWV tube and fittings lower building costs . . . increase the saleability of any type home

256

The plumbers here are preparing a Streamline DWV prefabricated assembly for a multiple bath sanitary drainage system. The strong, rigid assembly will be placed into position and completed with a very little additional work.

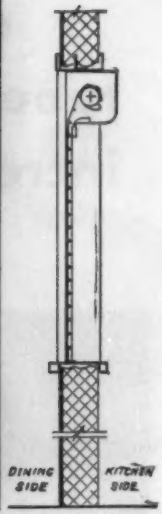
Because of the ease of this prefabrication type of installation, contractors report DWV copper tube and fittings can be installed in half the time required with caulked or threaded piping materials. And because it cuts installation costs, Streamline DWV copper tube and fittings naturally lower building costs. Streamline DWV copper tube and fittings also improve the quality of any home or building by providing a lifetime of corrosion and rust resistant, leak-proof sanitary drainage that never clogs.

To lower your building costs . . . and increase the value of your home . . . it will pay you to specify Streamline DWV copper tube and fittings for sanitary drainage.

MUELLER BRASS CO. PORT HURON 8, MICHIGAN

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

for school and institutional use



PEELLE ROLLING ALUMINUM PASS WINDOW UNIT

Combined in the above completely assembled unit are a stainless steel frame, guides and a shutter of extruded aluminum flat-slats which rolls compactly into the head.

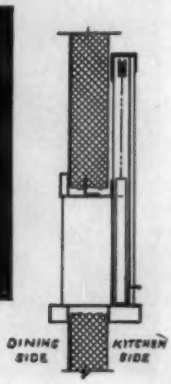
3 PEELLE PASS WINDOWS

...all with integral frames for easy installation

- **ARCHITECTS** specify Peelle Pass Windows to reduce specification and design time and to assure owner of a quality installation.
- **CONTRACTORS** like Peelle Pass Windows because they save estimating and buying time and eliminate duplication of installation—when frame is installed—panel is installed.
- **OWNERS** like Peelle Pass Windows because they give maintenance-free, EASY operation. Quality design and workmanship permit easy cleaning with no cracks and crevices to act as dirt catchers.

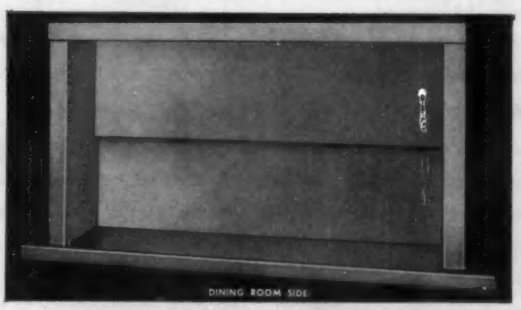
These desirable features account for the wide-spread use of Peelle Pass Windows in so many carefully planned school and institutional dining rooms and cafeterias. The three basic window designs shown at the right, allow great flexibility of choice in planning service access between kitchen and dining room.

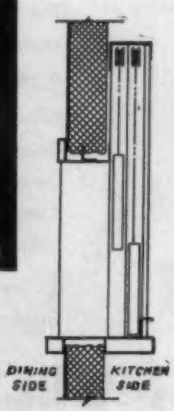
Send for complete details on all 3 Peelle Pass Windows



PEELLE ORIGINAL PASS WINDOW UNIT

The above completely assembled unit consists of a hollow metal door with steel guides and frame, designed for quick, economical installation. Special extended sills furnished when specified.





PEELLE *TELCO* PASS WINDOW UNIT

The Telco pass window is designed for low overhead conditions. The two vertical rising panels are arranged so that both leaves arrive at fully open or closed position simultaneously.

ENGINEERED FOR THE BUILDING INDUSTRY
PEELLE-RICHMOND PRODUCTS

THE PEELLE COMPANY

47 Stewart Avenue, BROOKLYN 37, N. Y.
4037 N. Kedzie Ave., CHICAGO 18, ILL.
34 South 17th St., PHILADELPHIA 3, PA.

OFFICES IN PRINCIPAL CITIES

B.F.Goodrich

STRAW WEAVE
PATTERN ACTUAL SIZE

Straw Weave, latest Koroseal fabric-backed vinyl wall covering from B.F.Goodrich, offers you an eye-appealing texture in a spectacular color range—17 different shades, three of them (Corn, Cinnamon and Limed White) exciting new forecast colors.

No need to redecorate walls for many years when you apply new *Straw Weave*. It is a functional, practically maintenance-free material. This and other Koroseal wall coverings meet fire resistance requirements of Fed. Spec. CCC-A-700. They are moderately priced, easy to apply, washable with soap and water.

For sample swatches and other data, write Dept AR-11, *B.F.Goodrich Industrial Products Company, Marietta, Ohio.*

Koroseal®
VINYL WALL COVERING

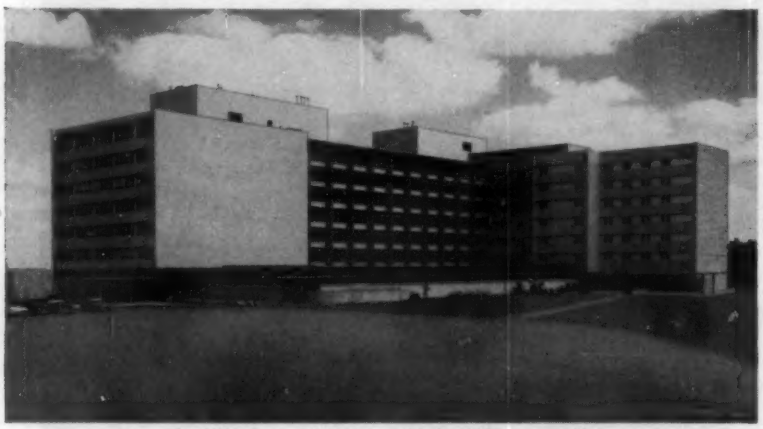
B.F.Goodrich *Koroseal supported vinyl fabrics*

Edmonton's Milner Building Is Nearing Completion

A $4 million office building for Northwestern Utilities Ltd. and Canadian Utilities Ltd. (photo of rendering at right) is nearing completion in Edmonton. Architects are Rule, Wynn and Rule; consulting engineers, Angus, Butler and Associates Ltd. and Allsop and Simpson Ltd.; general contractor, Christensen and Macdonald Ltd.

The building will have a 12-story tower 85 ft wide and 163 ft long and a two-story annex adjoining the tower on the north. On two sides the ground floor of the annex is set back 10 ft from the building lines; the resulting overhang of the second story provides protection for sidewalks along the façades and a driveway along the north face leading to a drive-in wicket. Services are grouped in a utility core in the tower; a two-story penthouse will house mechanical and air conditioning equipment.

Structure is steel, exteriors of masonry curtain wall construction.



The University of Mississippi Medical Center, Jackson

MALVANEY, NAEF AND OVERSTREET, ASSOCIATED ARCHTS. — LANDAUER, GUERRERO AND SHAFER, CONSULTING ENGRS.

Complete Laundry by TROY PLANNING SERVICE

Designing and equipping efficient institutional laundries, like the University Medical Center which has a 355-bed hospital, calls for *both* specialized experience and detailed knowledge of the latest developments in laundry machinery. Troy offers this combination to architects through Troy Laundry Planning Service. Complete floor plans and specifications are prepared *without charge.*

Write, early in the planning stage, including as much related information as possible concerning your institutional or hotel laundry design project.

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE OR WRITE FOR COPY

Troy®
LAUNDRY MACHINERY
Division of American Machine and Metals, Inc.
East Moline, Illinois
World's oldest manufacturer of power laundry machinery

MAIL COUPON TODAY

TROY LAUNDRY MACHINERY
Division of American Machine and Metals, Inc.
Dept. AR-1158, East Moline, Illinois

☐ Please send typical layouts for laundries in:

TYPE OF INSTITUTION AND SIZE

YOUR FIRM NAME

ADDRESS

CITY & ZONE — STATE

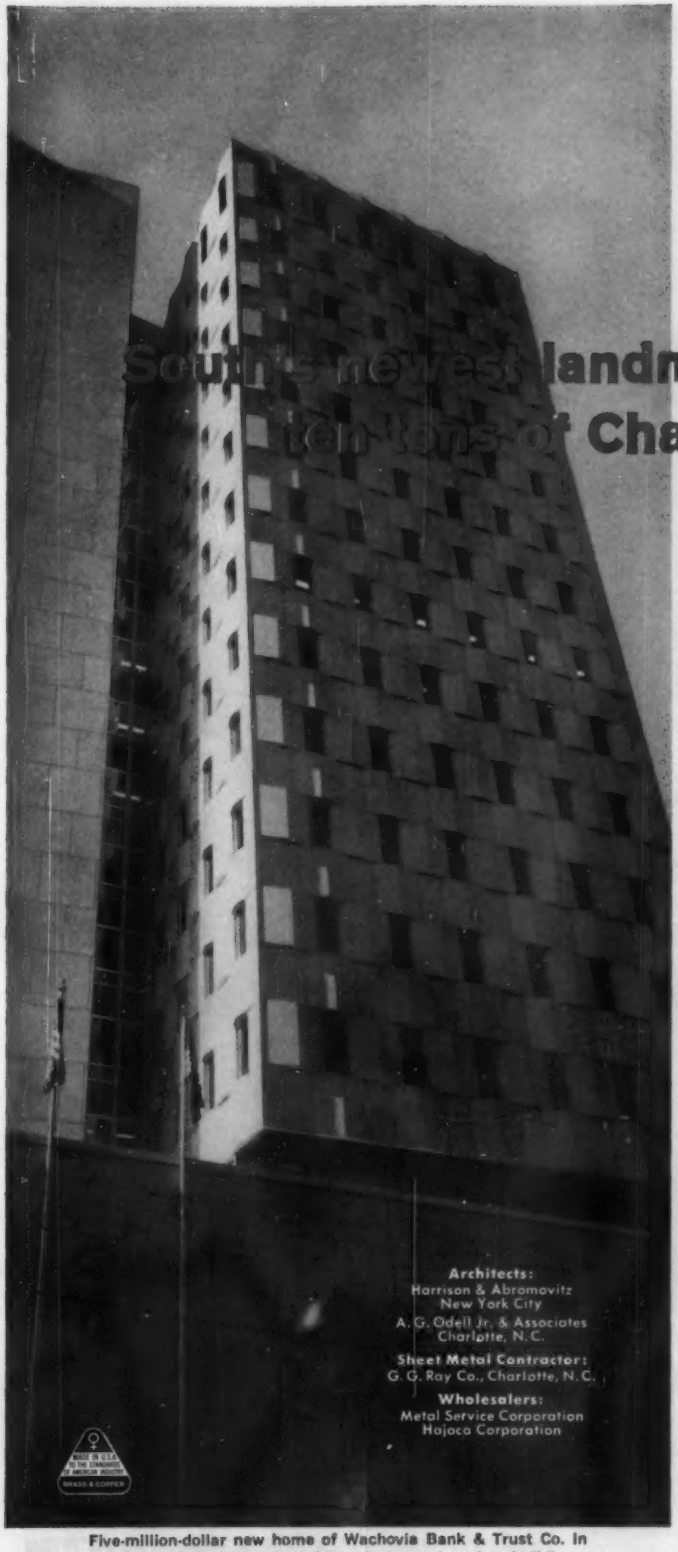
ATTENTION MR.

Three Units Comprise Building For Sisters of Charity

The "General Home" of the Sisters of Charity in Giffard, P. Q. (photos below), provides a 250-bed hospital in one wing, living quarters for 200 to 250 resident or visiting nuns in a parallel "community wing"; and in a central connecting link all the general services necessary for the whole institution, including a chapel which can accommodate 1000 persons. Architects are Robert Blatter and G.-Fernand Caron; associate architect for the chapel, B. Gagnon; mechanical engineers, Leblanc, Montpetit and Dorval.

The hospital wing reserves the main floor for general medicine, four surgery rooms, X-ray and therapeutic rooms. There are five floors above, each containing 50 single rooms, solarium, day room and nursing services.

Construction is concrete framing, with concrete slab floors on steel joists. Exteriors are granite and limestone; interior walls are painted plaster.



Five-million-dollar new home of Wachovia Bank & Trust Co. in Charlotte, N. C.—called one of America's most modern buildings.

South's newest landmark protected by ten tons of Chase® copper!

Wachovia Bank & Trust Co. building in Charlotte, N. C. uses sheet and strip copper flashing in construction

First building in the United States to use prismatic, pre-cast concrete panels. First tower-type structure in the South. Largest office building in Charlotte. These are some of the records set by the striking new office building of the Wachovia Bank & Trust Company.

More than 25,000 lbs. of copper flashing by Chase protect the building against weather. Ten tons plus of sheet and strip copper and lead-coated copper were used in its construction.

Chase is ready to help *you* meet the needs of *your* construction projects —large or small, from residence to major office building. Let your nearest Chase District Office or Warehouse show you the many ways that low-cost, long-lasting copper can serve better, protect longer, add beauty to buildings. Or write Chase, Waterbury 20, Connecticut.

Chase

BRASS & COPPER CO.
WATERBURY 20, CONN.
Subsidiary of
Kennecott Copper Corporation

The Nation's Headquarters for Brass, Copper and Stainless Steel

Atlanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York (Maspeth, L. I.) Philadelphia Pittsburgh Providence Rochester St. Louis San Francisco Seattle Waterbury

SANITATION is all-important here, and with Jamison Stainless Steel Clad Doors, cleaning is simplified, maintenance is no problem. Note Jamison Door Closer that saves refrigeration.

FOUR-WINDOW refrigerator front—also stainless steel clad—glazed with three thicknesses of plate glass ¼" thick. Sturdy hardware is chromium plated heavy cast bronze.

Gleaming JAMISON stainless steel clad doors selected for "Hospital of the Year"*

Like the new Bishop Clarkson Memorial Hospital in Omaha, Nebraska, more and more hospitals (and hotels and restaurants) are specifying stainless clad Jamison Doors to meet their rigid sanitary requirements at economical cost. Jamison's unmatched experience plus complete flexibility of design is your assurance of the practical solution to any door problem.

"How to Select and Specify Cold Storage Doors"—a helpful booklet you should have—answers your questions on the many factors involved in specifying cold storage doors. For your copy write to Jamison Cold Storage Door Co., Hagerstown, Md.

*The Bishop Clarkson Memorial Hospital was the winner of the 1955 "Hospital of the Year" award.

Architects & Engineers:
Leo A. Daly Co.
Omaha, Nebr.

Contractor:
Peter Kiewit & Sons Co.
Omaha, Nebr.

Insulator:
Kelley Asbestos Prods. Co., Omaha, Nebr.

JAMISON
COLD STORAGE DOORS
Jamison Cold Storage Door Co., Hagerstown, Md.

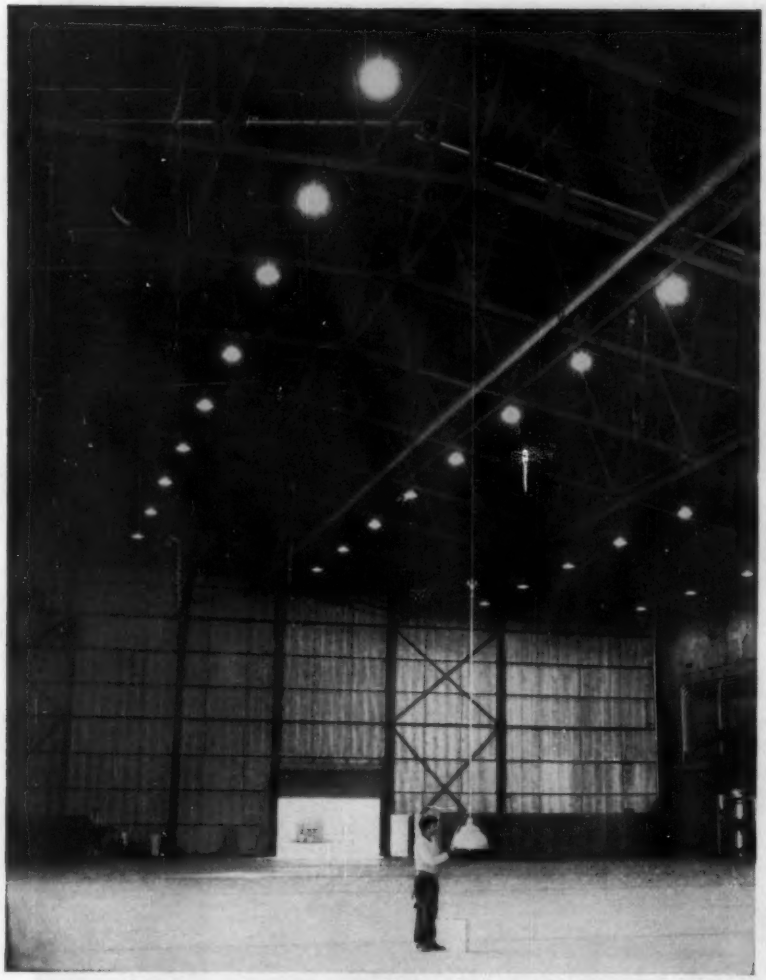
SCHOOL'S ABSTRACT MURAL IN CERAMIC VENEER

depicts Greenwich Village activities in the arts and crafts for students. Huge polychrome terra cotta panel 11′ 2″ x 17′ 6″ was developed in Federal Seaboard's studio at the Perth Amboy, N. J. plant from quarter scale cartoon by artist John Murray Barton. Michael Radoslovich is the architect, Grayco Builders, the constructors of this Public School No. 41, West 11th Street, New York City. Federal Seaboard's colorful literature illustrating the versatility of Ceramic Veneer is available upon request. Also without charge, we will gladly furnish construction detail, data, color samples, and any other information involving Ceramic Veneer, the modern architectural terra cotta.

FEDERAL
SEABOARD
TERRA COTTA
CORPORATION

10 E. 40th St., New York 16, N. Y.
Plant at Perth Amboy, N. J.

F S T C



"DOWN AND OUT"
IS PROFITABLE...WITH
THOMPSON HANGERS

LUMINAIRE MAINTENANCE is one of very few business operations in which "down and out" means *SAVINGS* instead of failure. Faster, safer, easier servicing techniques automatically reduce maintenance costs . . . keep lighting efficiency at peak levels.

With THOMPSON HANGERS, one unskilled man can relamp and clean a luminaire within 5 minutes! Working on a "dead" fixture, with both feet on the floor, he is safe from all climbing and electrical dangers . . . needs no assistance to lower, service or re-position hi-bay lighting fixtures.

No matter how you figure it, if you want long-range economy and peak lighting efficiency, THOMPSON HANGERS are your best buy.

8187-TE

FOR DETAILS, WRITE TODAY
FOR BROCHURE TH-57.

T-E

THE THOMPSON ELECTRIC CO.

P. O. BOX 873-C, • CLEVELAND 22, OHIO

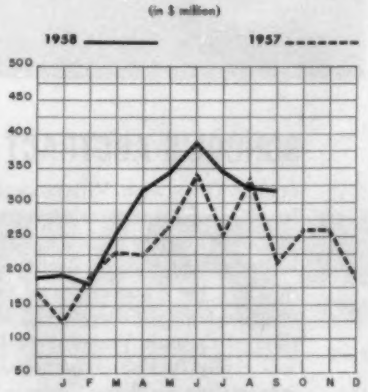
News from Canada

New Notes

GEORGE N. WILLIAMS, Ontario's chief architect and deputy minister of public works, was honored at a dinner party given by the Premier and other members of the Ontario Cabinet on the occasion of his retirement. Now 67, Mr. Williams has spent 44 years in the provincial service. . . . The P.Q.A.A. ARCHITECTURAL EXHIBITION at the Museum of Fine Arts, Montreal, was officially opened by Mayor Sarto Fournier on October 17. . . . Robert Cripps, of the architectural firm of Weir, Cripps and Associates, has been elected chairman of the newly formed TORONTO CHAPTER OF THE SPECIFICATION WRITERS ASSOCIATION OF CANADA. D. J. Harrison and Ivan Lavender, both specification writers, are vice chairman and secretary-treasurer, respectively. . . . About 100 students enrolled this fall in the School of Architecture of the UNIVERSITY OF BRITISH COLUMBIA, establishing a new record. . . . H. Arthur Henderson has been appointed chief architect of the ALBERTA DEPARTMENT OF PUBLIC WORKS. He succeeds Ronald Clarke, who resigned to enter private practice. . . . TORONTO CHAPTER, O.A.A., heard Matthew B. M. Lawson, commissioner of planning for Toronto, at its September 17 meeting. In dealing with his subject, "The Redevelopment of the Civic Square Area," Mr. Lawson made particular reference to the south side of Queen Street, which faces the new city hall but was not covered by the recent competition. . . . December 8 and 9 are the dates selected for the next CANADIAN SOIL MECHANICS CONFERENCE. It will be held at the University of Saskatchewan, Saskatoon.

Contracts Awarded: Comparative Figures

(in $ million)



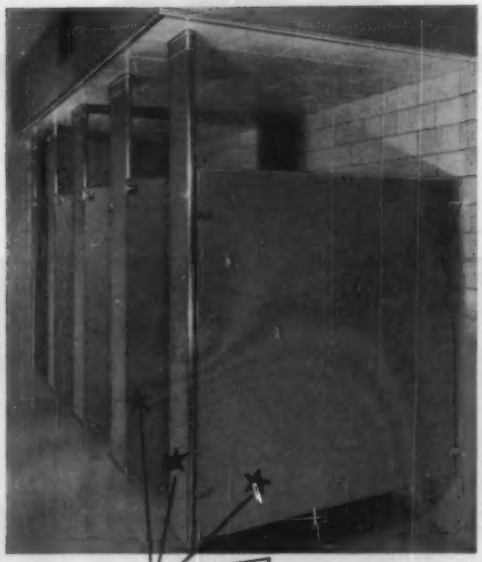
*Compiled by the Editor and staff of The Building Reporter, from information collected by Hodgson Building Reports

Sanymetal®

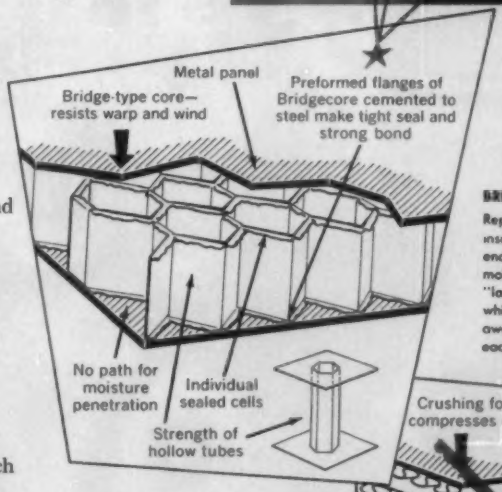
again leads engineering advance with *new*

BRIDGECORE

for maximum compression resistance, greater panel strength, longer life

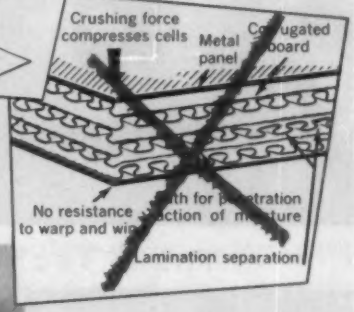


New **BRIDGECORE** fiber insulation is composed of hexagonal tubular cells at right angles to, and cemented to, face plates of panels, doors, pilasters.


Metal panel
Bridge-type core—resists warp and wind
Preformed flanges of Bridgecore cemented to steel make tight seal and strong bond
No path for moisture penetration
Individual sealed cells
Strength of hollow tubes

BRIDGECORE WAY

Replacing corrugated board insulation, **BRIDGECORE** ends structural weakness, moisture penetration, and "lamination separation" in which corrugations pull away from metal or from each other.



OLD WAY *(Right:)*

Advantages from **BRIDGECORE** include greater panel strength, less weight (always true of tubular design), and finished surfaces free from buckle and wave.

Using the structural principle employed in modern aircraft wing design, Sanymetal now builds toilet compartment doors, panels, and pilasters *stronger*, and *lighter*, with new Sanymetal BRIDGECORE.

BRIDGECORE provides thousands of hexagonal, tubular fiber cells bridging the space between the metal face plates. Preformed flanges on the edges of each BRIDGECORE cell cemented under pressure directly to the steel, producing an exclusive *compression bond.* Thus the cells rigidly brace the panel sheets like trusses. The cementing permanently seals each individual cell. There is no chance of moisture penetration. This design completely eliminates "lamination separation" which occurs with conventional corrugated board. With BRIDGECORE the panels are stiffer, stronger, and resistant to warp and wind.

This new engineering improvement is one of the many features in Sanymetal construction which make compartments that have flat surfaces free of buckle and wave. To get these advantages specify *Sanymetal.*

Write for new bulletin on Sanymetal "Bridgecore", and for Sanymetal Catalog 95, which gives other important details of quality toilet compartment construction.

(Left:) **BRIDGECORE** adds even more strength to Sanymetal construction, already noted for rigidity unaffected by abuse which would cause ordinary panels to warp or wind.

LOOK FOR THIS

NAMEPLATE WHICH IDENTIFIES EVERY SANYMETAL INSTALLATION

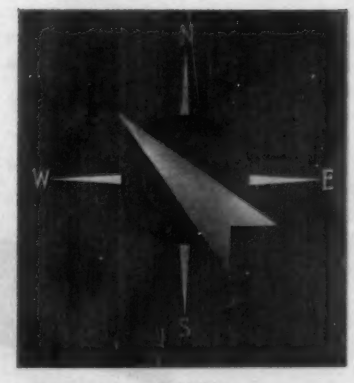
Sanymetal®
PRODUCTS COMPANY, INC.
1689 Urbana Road, Cleveland 12, Ohio

new dimensions

The 3 Techniques of Formica® Decorative Art

ORIGINAL PAINTINGS

ARTLAY



INLAY

in FORMICA® *laminated plastic*

Decorative Art

a custom architectural service of murals, designs and art treatments sealed in durable Formica.

Never before has one proven material offered so many and varied opportunities for you to introduce fresh new ways of interpreting the character and personality of a public, institutional or commercial building. Versatile, flexible, adaptable – Formica Decorative Art is a fusion of Beauty Bonded Formica and artistic imagination – your imagination. The Formica Corporation places at your disposal its vast resources of architectural engineering and production to execute your own designs and color combinations in the permanent and maintenance-free medium of decorative laminate.

Each Decorative Art project is a custom assignment, and requires close cooperation with the customer. The cost of each project is determined as the details are worked out, and is dependent upon the complexity and types of designs and the number of colors used. The three techniques employed are: Original Paintings, Artlay, Inlay. Used individually or in combination with each other, they make possible the creation of truly unique and beautiful designs.

ORIGINAL PAINTINGS

Original Paintings are used in murals or as smaller graphic "key stones" in combination with other techniques, in one-of-a-kind installations. Your artist can create the design and send the finished art work to Cincinnati where Formica specialists will duplicate it using special Formica inks and facilities. Or the artist can come to Cincinnati and work with our Decorative Art Department.

When executed, the finished art is sealed right in the Formica laminated plastic sheet, safe from dirt, fading, or destructive effect of atmospheric acids.

ARTLAY

Formica executed Artlay designs can be as simple or complicated as your imagination dictates. Very nearly any pattern, commercial trademark or new repetitive design can be treated and custom produced in Formica by a printing press.

INLAY

To accomplish special effects in this third "custom" process, decorative sheets of Formica treated paper – pattern or solid color – or plain or anodized aluminum parts are cut to desired shapes and laid into the laminate prior to the final pressing operation.

GET THE FACTS

Write today for the FREE booklet "New Dimensions in Decorative Art" (Form No. 863). Contains photographs of completed Formica Decorative Art treatments. Offers detailed information about the execution and cost of this new art form. There is a Formica district manager near you with a full color slide film on Formica Decorative Art. Showings can be arranged for groups of any size. Formica Corporation, 4603 Spring Grove Ave., Cincinnati 32, Ohio.

Washington Topics *by Ernest Mickel*

Fiscal 1959 Construction Spending Tops Earlier U. S. Estimates

The Budget Bureau found at mid-year that it had to revise upward rather sharply its January expenditure estimates for fiscal 1959, the period beginning July 1. An analysis of the new figures, released in September, indicated that construction programs, both direct and indirect, had a lot to do with the bulge.

Altogether, housing, in all its various forms, caused the fiscal experts to add a round $1 billion to their earlier estimates. Military construction, added to direct military research and development, caused the anticipated 1959 outlays to jump by $365 million to $6.4 billion. Natural resources as a category accounted for an increase of $199 million over the January budget.

Receipts in the highway fund were found to be less than earlier expected and expenditures for road purposes were bound to increase during the current fiscal period due to accelerated construction authorized in the Highway Act of 1958. The highway trust fund still will show a balance at the end of fiscal 1959, but Budget has warned that higher gasoline or other taxes will be necessary to keep the fund on the plus side beyond that date.

Increases over the January estimates were noted also for Veterans Administration hospital construction and modernization, for research and construction expenditures for the National Institutes of Health, grants to states for hospital construction under the Hill-Burton Act and grants to Federally impacted school districts to help them with their school housing needs.

Preparations Begin for 1961 U. S. Conference on Aging

The special staff on aging of the Health, Education, and Welfare Department began preparations for assisting the states and their local communities in the conduct of local studies and conferences in advance of the White House Conference on the Aging to be held in Washington, D. C., in 1961.

Funds were voted by the 85th Congress to enable HEW to make an immediate start on the preliminary planning. HEW will cooperate with other Federal departments and agencies represented on the Federal Council on the Aging.

The 1961 conference is expected to follow the broad outline of the Conference on Education held in Washington a few years ago.

The architect's interest in the design of housing for the elderly, one of the subjects to be covered in the forthcoming meeting, was emphasized at the National Housing Center conference on "Housing our Senior Citizens" held last May. At that time leading home builders told the conference there was a wide open field for the construction of housing for the elderly. Rental housing for senior citizens has deteriorated severely while sales housing has remained fairly satisfactory, one of the spokesmen said. It was estimated then that there would be an annual market in the United States for 150,000 rental units for older persons.

Businessmen and City Planning: U. S. Chamber Plans Conference

A unique conference where architects, engineers and city planners have an opportunity to discuss with businessmen metropolitan growth problems has been planned by the U. S. Chamber of Commerce for November 24 and 25 in Washington, D. C.

continued on page 372

10,400 sq. ft. 3/32" Edge-Grain Ironbound Floor in Women's Gym, Michigan State U., East Lansing, Mich. Arch.: Ralph R. Calder, Detroit, Gen'l Contr.: Granger Bros., Lansing. Installer: Whitcomb-Bauer Flooring Inc., Detroit.

IRONBOUND* CONTINUOUS STRIP* HARD MAPLE FLOOR

For MSU coeds, physical education is an important part of college training. And the gymnasium floor used by hundreds of students every school day is an important part of the university's physical education facilities.

An edge-grain Ironbound Northern Hard Maple floor was a "must" for this important installation because of its smooth, natural beauty, uniform resiliency and long-run economy.

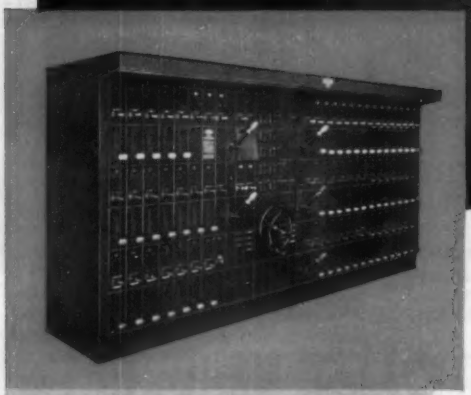
Ironbound's uniform resiliency, assured by layers of mastic and cork under the flooring, prevents sore ankles and leg muscles. And its exclusive sawtooth steel splines interlock the durable maple strips to keep the floor tight and resistant to wear, long lasting and economical.

For full information on Ironbound for schools, industrial plants and public buildings, write to Robbins Flooring Company, Reed City, Michigan, Attention: Dept. AR-1058

ROBBINS FLOORING COMPANY
Reed City and Ishpeming, Michigan
Manufacturers of Ironbound* Continuous Strip* Maple Flooring, PermaCushion* Resilient Floors and other hardwood flooring

Unlimited fluency of light and color....

FA STAGE LIGHTING CONTROLS



TYPES OF CONTROL SYSTEMS

- Manual switching and dimming
- Modified remote switching and manual dimming
- Full remote switching and manual dimming
- Multiple pre-set switching and manual dimming
- Remote switching and remote dimming

Dimmer Types Available

- Auto transformer
- Electronic tube
- Magnetic amplifier

Ask your well qualified FA Representative for his help on all technical problems involving stage lighting control

FRANK ADAM

No matter what the audience mood or emotional response must be, this completely versatile equipment meets every demand instantly, fully with the entire dramatic spectrum.

Whether for college or school, theatre or auditorium, Frank Adam Stage Lighting Control Systems are "tailor-made" to fulfill the simplest or most difficult requirement for any size installation. More than a half-century of experience, supplemented by the most skilled and ingenious engineering in the industry, is at your service. *Write for illustrated brochure.*

FA Products are the sign of a better job

FRANK ADAM ELECTRIC CO.

P. O. BOX 357, MAIN P. O. • ST. LOUIS 66, MISSOURI

busduct • panelboards • switchboards • service equipment safety switches • load centers • Quikheter

Johns-Manville *Aquadam* Built-Up Roofs

pay off in longer roof life and maximum protection

MANY ROOFS are built up with bitumens or cementing agents which deteriorate under standing water. Now, however, you can put an end to "standing water worry" by specifying Aquadam Roofs. Even if pools of water stand for weeks, these roofs retain their outstanding physical characteristics.

Aquadam Built-Up Roofs take their name from a superior cementing agent developed by Johns-Manville. This unique bitumen, Aquadam, possesses the best features of coal tar pitch and of asphalt without their weaknesses. It is especially produced for modern low incline roofs of dead-level to ½" per ft.

Under water immersion, Johns-Manville Aquadam does not swell, hummock, discolor nor does it turn cheesy. It continues adhesive and cohesive. Its outstanding physical features are not harmed by pools of standing water.

Besides ending "standing water worry," Aquadam offers these other advantages: excellent self-healing properties; exceptional ability to expand and contract with normal deck movement; proven weather resistance under wide-ranging climatic conditions and "superior bond" because Aquadam spreads, wets and saturates the roofing felts uniformly.

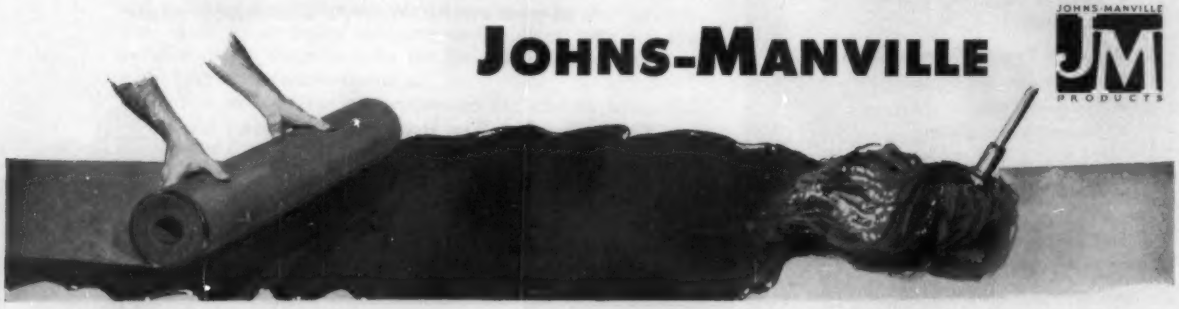
The roof pictured above is a smooth-surface Aquadam Asbestos Built-Up Roof, a dead-level roof that eliminates tons of dead weight, since no gravel is needed. The asbestos fibers in the roofing felts protect against the drying-out action of the sun thus preventing oxidation of the impregnated bitumen within the felts and the layers of Aquadam between the felts.

However, Aquadam Gravel or Slag Built-Up Roofs are available when the building design calls for a light or colored roof effect.

For a copy of booklet "J-M Aquadam Built-Up Roofs" write to: Johns-Manville, Box 158, New York 16, N. Y. In Canada, write Port Credit, Ontario.

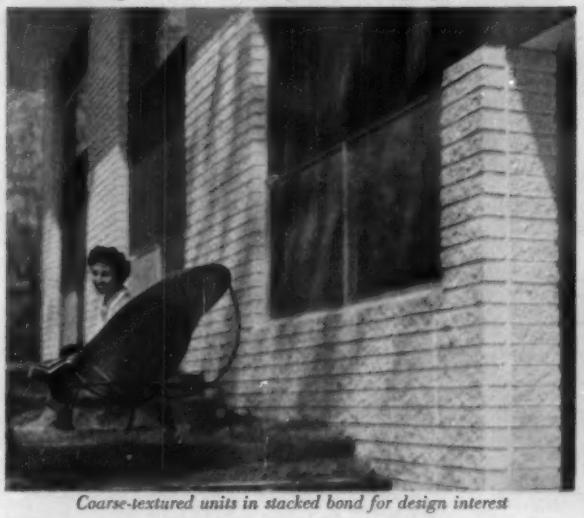
JOHNS-MANVILLE

JOHNS-MANVILLE JM PRODUCTS



Living concrete in integrally colored 2"-high split block

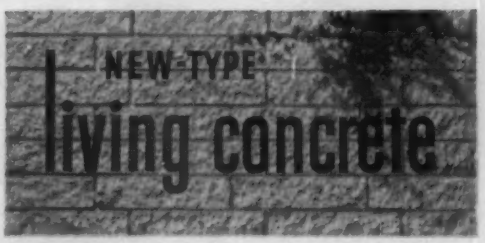
Painted 4"-high units. Another of concrete masonry's many new forms



Coarse-textured units in stacked bond for design interest

Raked horizontal joints add dramatic shadow lines to fireplace

Masonry patterns that bring new charm for today's homes...



A whole new design opportunity is opened by today's modern forms of concrete masonry.

Here are new shapes, textures and colors that give fresh interest and charm to home exteriors—interiors, too. Warm, friendly looking, created to the mood of modern living . . . this is new-type *living concrete!*

The growing popularity of *living concrete* can be seen from California to New York, in outstanding homes of every architectural style. It wins a warm and lasting welcome in any neighborhood.

Living concrete can give greater breadth to your home designing. Write for free booklet "*Concrete Masonry Homes for Better Living*," distributed only in the United States and Canada.

PORTLAND CEMENT ASSOCIATION Dept. 9-8, 33 West Grand Ave., Chicago 10, Illinois

A national organization to improve and extend the uses of concrete

Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc. Inc.

Labor and Materials: U.S. average 1926-1929=100

NEW YORK

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.6	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	274.9	271.8
1952	278.2	274.8	271.9	265.2	262.2
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
1956	310.8	302.2	320.1	328.6	324.5
1957	318.5	308.3	333.1	345.2	339.8
June 1958	323.7	312.3	242.9	356.9	349.8
July 1958	333.1	318.9	356.8	375.5	365.8
August 1958	335.1	320.7	357.7	377.4	366.7
	% increase over 1939				
August 1958	171.3	162.0	173.7	182.9	181.9

ATLANTA

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.0	224.6	221.3	221.8	223.0
1954	219.6	219.1	233.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
1956	237.2	235.7	241.7	244.4	246.4
1957	241.2	239.0	248.7	252.1	254.7
June 1958	241.0	237.3	251.8	257.7	258.5
July 1958	245.1	240.6	257.5	264.5	263.7
August 1958	245.3	240.8	257.8	264.7	263.9
	% increase over 1939				
August 1958	184.2	189.8	171.1	171.8	178.7

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.0	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
1956	288.7	280.3	287.9	299.2	293.3
1957	292.0	283.4	295.2	307.1	302.9
June 1958	297.6	288.3	306.2	320.0	315.0
July 1958	297.6	288.3	306.2	320.0	315.0
August 1958	298.3	289.2	306.3	320.1	315.2
	% increase over 1939				
August 1958	170.7	170.3	158.0	167.2	164.9

SAN FRANCISCO

1930	90.8	86.8	100.6	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.0	275.0	284.4	279.6
1956	279.0	270.0	288.9	298.6	295.8
1957	286.3	274.4	302.9	315.2	310.7
June 1958	290.3	275.0	312.9	329.1	322.5
July 1958	290.7	275.6	313.2	329.1	322.6
August 1958	291.4	276.5	313.3	329.2	322.8
	% increase over 1939				
August 1958	175.9	178.4	166.9	170.0	177.1

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

Again...

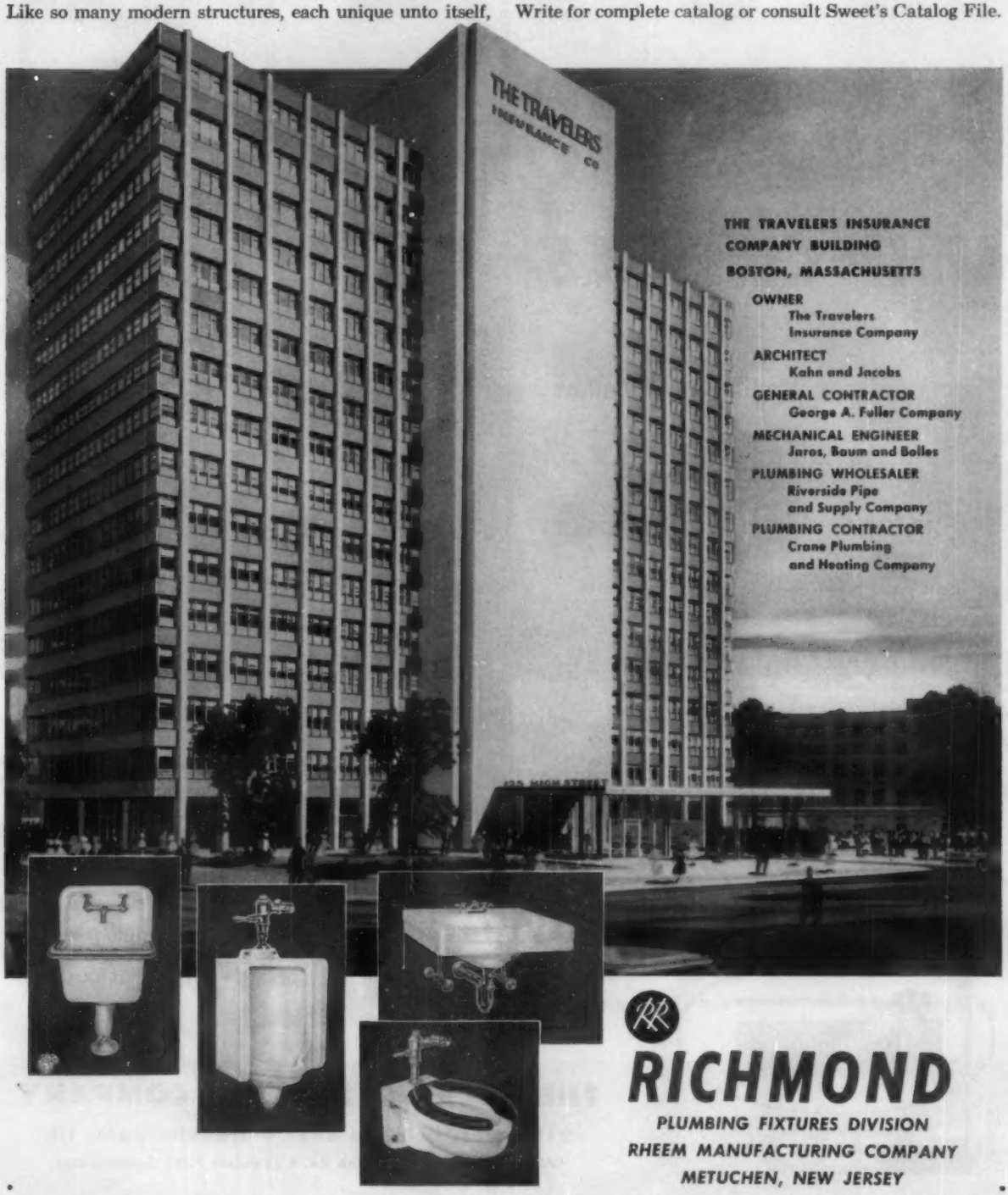
RHEEM-RICHMOND

The Fastest Growing Name in Plumbing Fixtures

Modern in form and color, yet traditional in its use of brick, this 16-story blue and white edifice creates a visual impression of solidity and substance—yet remains light and airy. Like so many modern structures, each unique unto itself,

The Travelers Insurance Company Building is equipped with Rheem-Richmond Plumbing Fixtures... fixtures of highest quality and enduring beauty... with minimum maintenance requirements that alone make them deserving of *your* next project—commercial, industrial, institutional or residential.

Write for complete catalog or consult Sweet's Catalog File.



THE TRAVELERS INSURANCE COMPANY BUILDING
BOSTON, MASSACHUSETTS

OWNER
The Travelers Insurance Company

ARCHITECT
Kahn and Jacobs

GENERAL CONTRACTOR
George A. Fuller Company

MECHANICAL ENGINEER
Jaros, Baum and Bolles

PLUMBING WHOLESALER
Riverside Pipe and Supply Company

PLUMBING CONTRACTOR
Crane Plumbing and Heating Company

RICHMOND

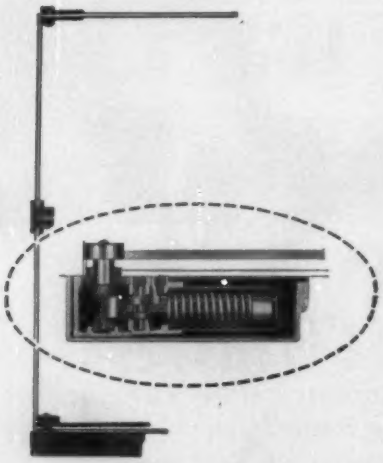
PLUMBING FIXTURES DIVISION
RHEEM MANUFACTURING COMPANY
METUCHEN, NEW JERSEY

another modern corridor with "invisible" door closers

RIXSON

UNI•CHECKS®

Strong, trouble-free, shallow door closers ... firmly embedded in the rigid floor ... no arms or closer mechanisms visible on either side. Easy to install or adjust. Write for complete details.

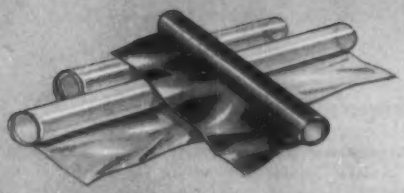


ideal for *school classroom doors • hospital patient room doors • hotel guest room doors • office building and factory interior doors . . .*

THE OSCAR C. RIXSON COMPANY

9100 west belmont ave. • franklin park, ill.

CANADIAN PLANT: 43 Racine Rd. • (Rexdale P.O.) Toronto, Ont.



LOW-COST MOISTURE-VAPOR CONTROL

that umbrellas the home from the foundation up

ARCHITECTS: ELEANORE PETTERSEN, A.I.A., ATTO NEWER, A.I.A.

SPECIFY

Ger-Pak® Virgin Polyethylene

BARRIER FILM

Name your need from attic to below grade. Dampproofing under concrete slabs? Dust-sealing over sub-flooring? Lining crawl spaces? Flashing? For over-all protection!

GER-PAK virgin polyethylene film fills the bill *right* the first time!

Only GER-PAK comes in every working size from 10 in. for flashing up to 40 ft. wide. Choice of BLACK, NATURAL, and opaque WHITE. And it's tough, lightweight, easy to handle and, *yes*,—inexpensive.

Specify versatility unlimited . . . specify GER-PAK film. At your dealer's. FREE samples and informative brochure yours for the writing.

SEE OUR CATALOG FILE IN SWEET'S

DESIGNED TO MEET FHA REQUIREMENTS

GER-PAK—the short way to say superior polyethylene film

Under Concrete Slabs | Over Studding | Lining Crawl Spaces | Concealed Flashing | Material Protection

GER-PAK®

Virgin Polyethylene Film

GERING PRODUCTS INC., Kenilworth, New Jersey

Required Reading

Architect-Planner Cooperation Furthered By New Report

PLANNING AND COMMUNITY APPEARANCE. *Edited by Henry Fagin and Robert C. Weinberg. Regional Plan Association, Inc., 205 E. 42nd St., New York 17. 159 pp., illus. $3.50 ($2.50 each for 10 or more and for members of R.P.A. and N. Y. chapters of A.I.A. and A.I.P.).*

BY EDMUND N. BACON
Executive Director, Philadelphia City Planning Commission

Any architect or city planner who fails to read *Planning and Community Appearance* does himself a disservice. Society as a whole will benefit from the fact that its authors, Henry Fagin and Robert C. Weinberg, assisted by the Joint Committee on Design Control of the New York Chapter, American Institute of Architects, and the New York Regional Chapter, American Institute of Planners, faced up squarely to a problem that is central to American life. The greatest contribution of the book is the clear identification of the nature of the problem. The description of community appearance in terms of geometric patterns, linear features, landmarks, lookout places, and areas of distinctive character is a great advance over the kind of thinking on this subject up to now.

The identification, of itself, should be a real stimulus to practitioners of the architectural and planning professions. Tradition dictates, however, that the authors of books of this character not only identify the problem but also suggest solutions. It is here that one feels a sense of strain.

In the best of all possible worlds, a "Community Design Plan" has no more right to a separate existence than would a design plan have in a building distinct and separate from its circulation plan, functional plan,

continued on page 400

Hotels Around the World

HOTELBAUTEN. *By Alexander Koch. Verlagsanstalt Alexander Koch, Stuttgart. Available from Museum Books, Inc., 48 E. 43rd St., New York 17. 320 pp., illus. $15.*

BY WILLIAM B. TABLER, A.I.A.

In this great age of travel *Hotelbauten* (with text in English, French, and German) is the first real book on hotels, the product of travel. It graphically portrays the international construction picture, for each hotel is the showcase, each city and country the host, judged accordingly by travelers. It is timely, since we are faced with the greatest hotel expansion program this world will ever see—in this "jet age" of travel, new hotels will replace the luxury ocean liners, the floating hotels of the past.

It is a valuable handbook for hotelmen and architects, for it contains an outstanding collection of photographs—both interior and exterior—and includes many that have not previously been published. There is excellent coverage of interiors; emphasis is placed on bedroom design (furniture layouts and sketches are shown). Complete plans of many of the hotels are included to enable those interested to study the organization and solutions to the complex hotel planning problem. This is very helpful in the hotel field, where there has been little planning research and there is so much to be done. It was also a pleasure to see motels covered, but with their rapid development in the United States, many more examples could have been included.

As a textbook it could have been even more valuable if the text were less descriptive and more critical. Most of the plans illustrate how the hotels were planned, rather than how they were rebuilt when operated. Cost data would also have been very

continued on page 64

Reinforced Concrete Examined

REINFORCED CONCRETE IN ARCHITECTURE. *By Aly Ahmed Raafat. Foreword by Mario Salvadori. Reinhold Publishing Corp., 430 Park Ave., New York 22. 239 pp., illus. $15.*

BY SEYMOUR HOWARD

Collected here between the covers of this one ambitious book are photographs of many of the important architectural examples of reinforced concrete, particularly those which take advantage of the strength and stiffness inherent in curved surfaces. These are supplemented and explained by the author's numerous lively sketches.

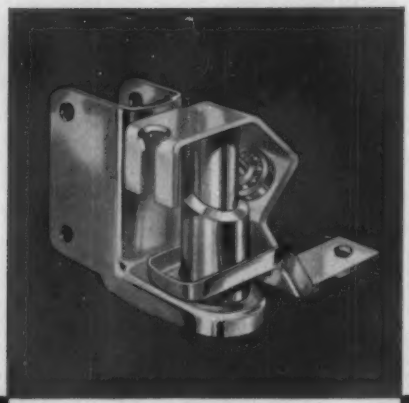
Mr. Raafat (B.Arch., Cairo, 1949; M.A., Michigan, 1953; Ph.D., Columbia, 1957) came to the United States in 1952 on a Fulbright scholarship and spent five years here in study and in working for Ammann and Whitney and for Perkins and Will. He started this book as his doctoral dissertation at Columbia, with the encouragement of Dean Arnaud, Professors Salvadori and Fitch, and others. It is the kind of survey which will help many architects and laymen get an overall picture of the history of reinforced concrete and of the architectural forms which it makes possible. The author is particularly to be congratulated on his historical research, adding to the usual information on the history of concrete such interesting material on early developments as the patent for reinforced concrete granted in 1878 to the American engineer Thaddeus Hyatt.

On the whole, however, Mr. Raafat has tried to include too much in his book. While it is desirable to show that reinforced concrete construction has many aspects, it is also necessary to present at least one of these aspects so thoroughly that the reader begins to develop a basis for critical judgment. All the examples shown are not of equal value, either as structural or esthetic achievements. One of the most distressing features of the current interest in structures is the indiscriminate praise given to buildings in which structure, any structure, suitable or not, is "expressed." It may excite at first, but, unless it is an appropriate solution to the problem, it soon palls.

Mr. Raafat shows a more critical approach in his chapter on "Architectural Expression," which has many perceptive glimpses into the esthetic problems of the new forms and their relation to structural problems. "Large end stiffeners" (as re-

continued on page 64

A highway interchange near Belton, Texas: "The new highways exemplify the linear features that will be prominent in the geometry of future urban patterns"



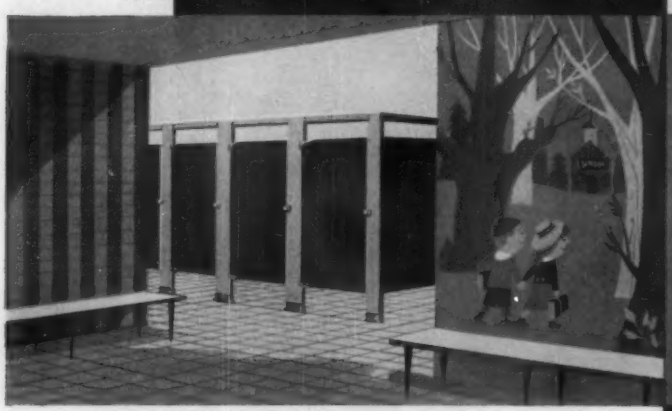
How strong is the hinge?

Hurffville Elementary School, Hurffville, New Jersey. Architect: Vincent G. Kling, A.I.A., Philadelphia. General Contractor: Lawsha Builders, Inc., Moorestown, New Jersey. 1958 School Board Journal Executive: Seventh Annual Competition For Better School Design.

CUTLER
TOILET COMPARTMENTS

Critical point in toilet compartment construction is the hinge that bears the heaviest work load for the life of the compartment. That's why architects ask, "How strong is the hinge?"

ANSWER: In an unbiased laboratory loading test comparable to the way a door is used in service, the Cutler lower hinge proved to be 76% stronger than a leading competitor's type tested. Further evidence: in another test double the weight which would be used in normal operation was applied to the nylon bearings of the lower hinge and after 486,000 equivalent door closings (equal to 15 times a day for 87 years) no wear was indicated and the test was discontinued.



Outstanding engineering is just one of the reasons you'll find Cutler Toilet Partitions specified for installation in the prize-winning Hurffville Elementary School in Hurffville, New Jersey, for instance—and in installations at Harvard University, General Motors, International Harvester, Yale & Towne, Western Electric, etc., to name just a few. Other reasons: rigidity, durability, adaptability, ease of assembly, color finishes, corrosion resistance, hardware and fittings, and the most satisfactory and safest-riding packaging in the industry. Each part, for example, is individually cartoned.

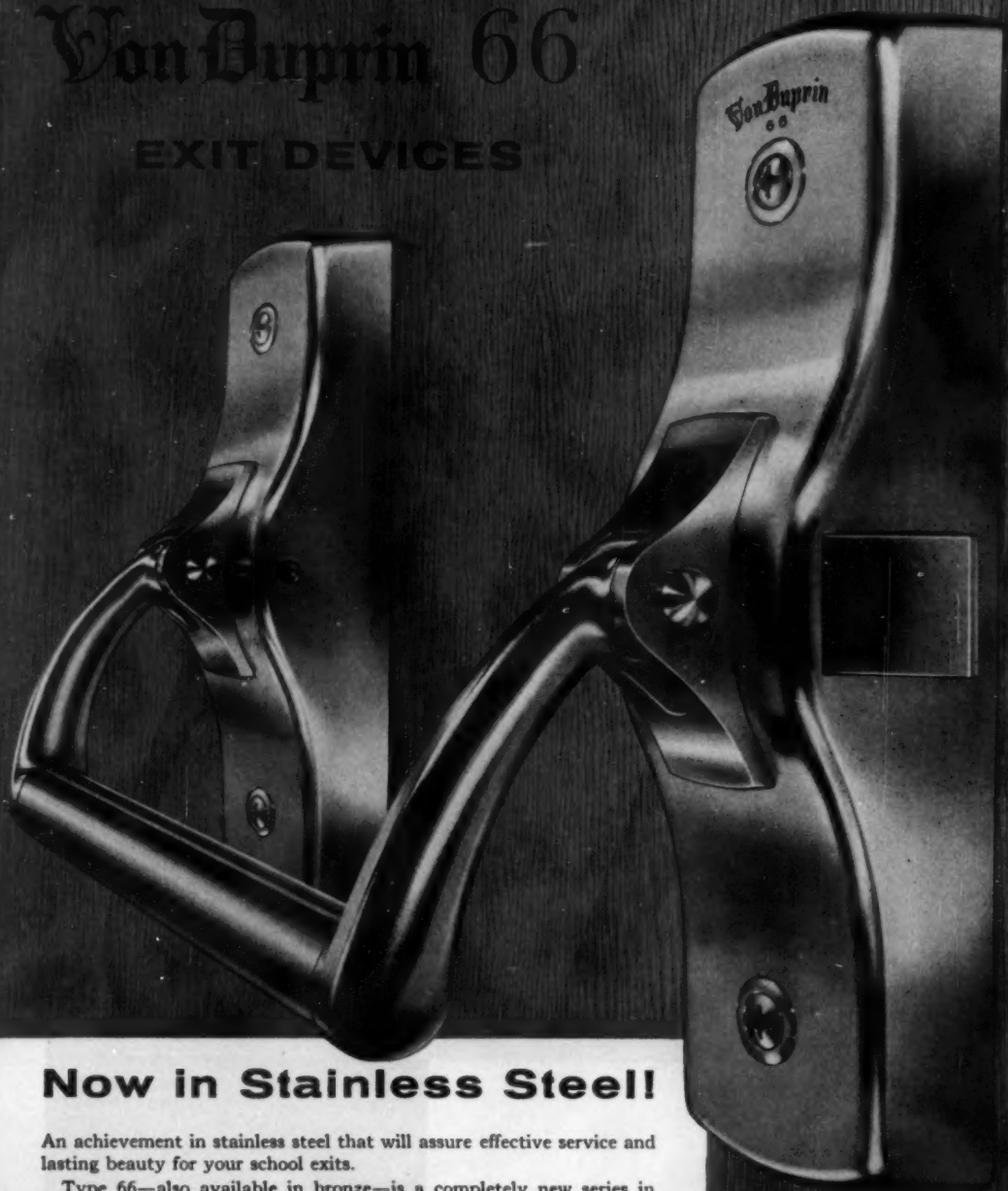
If you're interested in a new perspective on quality design, engineering, workmanship, specify Cutler Toilet Partitions—there are none finer available today. Models for every type of installation. Complete engineering advisory service. Immediate safe delivery to any job site in the U.S.A. Catalog in Sweet's Architectural File is yours for the asking. Complete specification sheets available for your use. For information, write:

Products Division **CUTLER METAL PRODUCTS CO.** 1025 LINE STREET, CAMDEN 3, NEW JERSEY

CMP

Von Duprin 66

EXIT DEVICES



Now in Stainless Steel!

An achievement in stainless steel that will assure effective service and lasting beauty for your school exits.

Type 66—also available in bronze—is a completely new series in rim, mortise lock and vertical rod models, and features a smart new line of matching outside trims.

For the finest expression of "the safe way out!", ask your architect or hardware consultant for full details on the Von Duprin 66. Or write direct for your copy of Bulletin 581.

VONNEGUT HARDWARE CO. • VON DUPRIN DIVISION
INDIANAPOLIS 9, INDIANA

RS

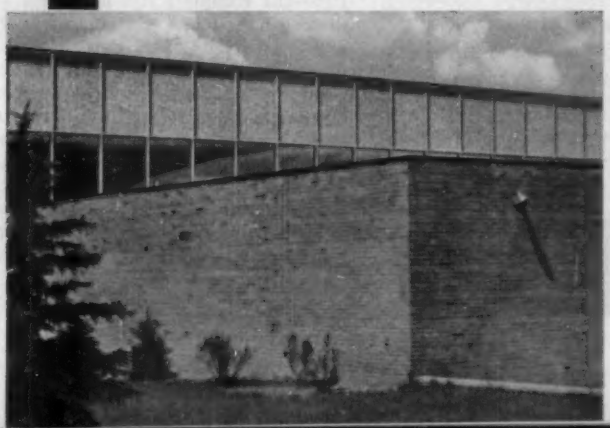
CURTAIN WALL PANELS OF CERAMIC TILE

enhance beauty of new Utica High School

Today's buildings are taking on a crisp, new look. Why? Because in tile-faced RS Panels, designers have discovered unlimited freedom in selection of color, texture and pattern which can be harmoniously combined with all conventional exterior finishes. Weatherproof RS Panels are available in thicknesses from 1⅜" to 4", with or without insulation, and in a complete range of sizes and edge conditions to meet your specific requirements. For complete information on RS Panels, including "U" values, weights and short form specifications, write for Bulletin RSP-201. Ceramic Tile Panels, Inc., Department R-26, Canton 2, Ohio.

Plate No. 1075

UTICA HIGH SCHOOL, Utica, Mich.
Architects:
SMITH & SMITH, Royal Oak, Mich.
Panel installation:
MOYNAHAN BRONZE CO., Flatrock, Mich.
EMIL VANSILE CO., Detroit, Mich.

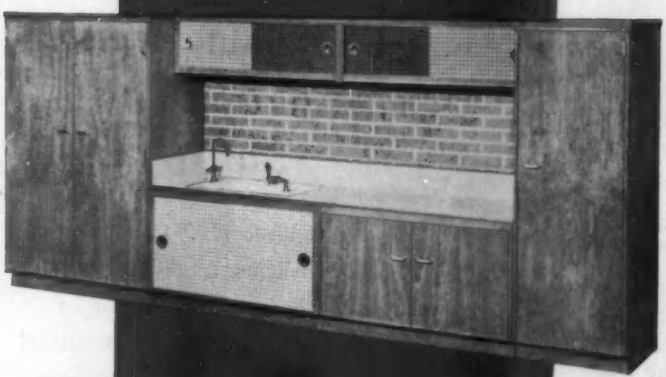


RS Panels

CERAMIC TILE PANELS, INC.
MEMBER: THE PRODUCERS' COUNCIL, INC.

SPECIFY...

Educators



1 ELIMINATE UNNECESSARY DETAILING

2 QUALITY WITH MINIMUM FIRST COST

3 LASTING BEAUTY AND UTILITY

4 ADAPTABLE TO FUTURE EXPANSION

Educators classroom units are built better to last longer. And, Educators proven design saves planning time because units can be used in any combination to meet specific requirements.

Educators MANUFACTURING COMPANY
P. O. BOX 1261, TACOMA, WASHINGTON

Required Reading

Hotels . . .

helpful, since a hotel must make its money out of the building.

In spite of all this, I found the book very interesting and heartily recommend it as required reading to those concerned with planning and operating hotels. It is a "must" for any architectural library.

Concrete . . .

quired to maintain the shape of a long barrel shell) "if exposed on the perimeter of the shell, are always misleading to its nature. Architects conscious of expression tend to extend the shell beyond these stiffeners, thus bringing it to the foreground." This type of problem illustrates the point at which architect and engineer must work together. Insofar as he has promoted this understanding, Mr. Raafat has succeeded in his aim of contributing to the maturity of a new architectural style.

Architecture as Art

MASTERS OF MODERN ARCHITECTURE. *By John Peter. George Braziller, Inc., 215 Fourth Ave., New York 3. 230 pp., illus. $15.*

Mr. Peter has produced an impressive and useful book. Virtually all the work included is, of course, familiar to architects and engineers; nevertheless, the volume is valuable as a convenient and handsome collection of photographs. Facts and statistics are given in a separate section of descriptions of the buildings (these might more conveniently have been printed with each cut) and brief biographies of the architects. Also included are a bibliography and indexes to architects, structures, and building types.

Seven men—Sullivan, Wright, Le Corbusier, Gropius, Mies, Nervi, Neutra—are represented not only by photographed work but also by samples of their writing. Among the other architects and engineers whose work is here are Maillart, Aalto, Breuer, Mendelsohn, Johnson, Noyes, Pei—the complete list is a long and distinguished one (95 major works are illustrated). Mr. Peter's concise illustrated introduction is a valuable summary of the main trends in the evolution of contemporary architecture. He comments: "The real challenge to modern architecture comes, as ever, from the emotional, intellectual, and spiritual needs of man. It is in fulfilling these needs that the art of architecture chiefly consists."

—P. C. F.

continued on page 396

ARCHITECTURAL RECORD *Western Section*©

EDITOR: *Elisabeth Kendall Thompson, A.I.A.*
2877 Shasta Road, Berkeley 8, California

What is a Regional Conference For?

A great many architects in the Western states went to A.I.A. regional conferences this fall. But a great many more did not. Perhaps the reason so many did not go was that they could not see clearly the benefit to them personally of spending several days listening to and talking "theory."

Perhaps the sum of their decision is contained in the remark of one architect who did go to a conference (of unusual quality and dimension). He said, "That was fine and I enjoyed it. But I have to ask myself, What meaning is there in it for me?"

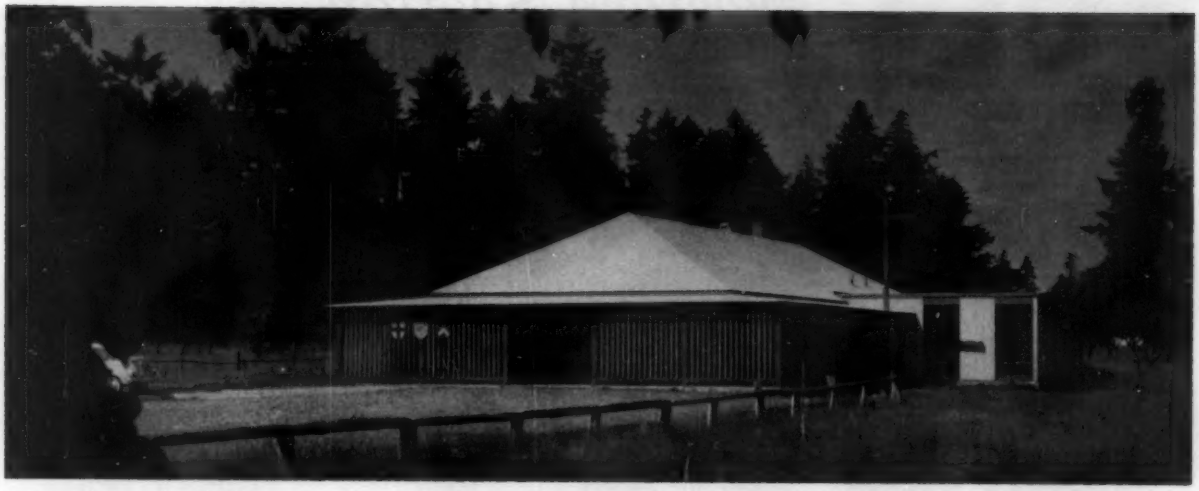
Sixty years ago psychologist William James answered this question, and although what he said then was addressed to teachers, it applies with equal force to architects—and others—today.

> "The inessential 'unpractical' activities are in themselves far more connected with our behaviour and our adaptation to environment than at first might appear. No truth, however abstract, is ever perceived that will not probably at some time influence our earthly action, action in the widest sense—speech, writing, yesses and noes, and tendencies *from* things as well as *toward* things, and emotional determinations, in the future as well as in the immediate present. As I talk here, and you listen, it might seem as if no action followed. You might call it a purely theoretic process with no practical result. But it *must* have a practical result. It cannot take place at all and leave your conduct unaffected. If not today, then on some far future day, you will answer a question differently by reason of what you are thinking now. Some of you will be led by my words into new veins of inquiry. These will develop your opinion, for or against. That opinion in turn will be expressed, will receive criticism from others in your environment, and will affect your standing in their eyes. We cannot escape our destiny, which is practical; and even our most theoretic faculties contribute to its working out."

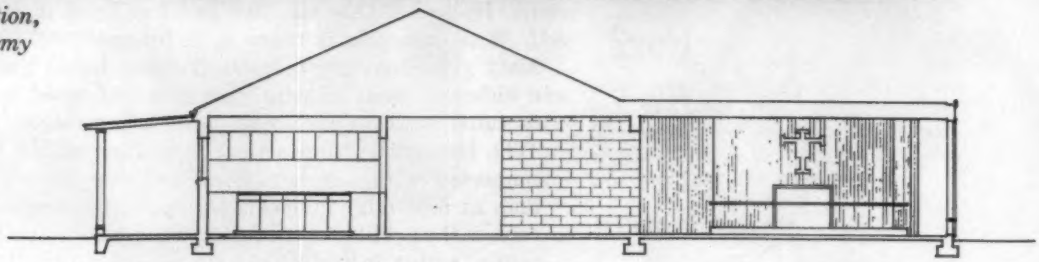
Architecture is by its very nature both theoretical and practical—its beginnings have to be theoretical and its end result must be practical. To be both, it must be the expression of a wide range of experiences, active and passive, and of knowledge acquired and intuitive. But who can say which is the more important background, which the more productive source? Who would rule out the theoretic and leave the practical only? Does the application of a general formula produce a better end result than the thought process stimulated by a particular problem? The formula may do it faster, but the thought process is more likely to produce the better solution.

Turning the mind occasionally toward the theoretic is a necessity if the creative avenues are to be kept open. Charles Darwin lamented in his later life the loss of his earlier taste for poetry, music and the other arts as "a loss of happiness . . . possibly injurious to the intellect and more probably to the moral character by enfeebling the emotional part of our nature."

A revisiting of the wells of inspiration is a benefit in any well-rounded life; in the life of creative architecture it is essential. To provide these wells is the mission of a once-a-year meeting of like minds. And that is what a regional conference should be. E.K.T.



Renovation and Addition,
Charles Wright Academy
Tacoma

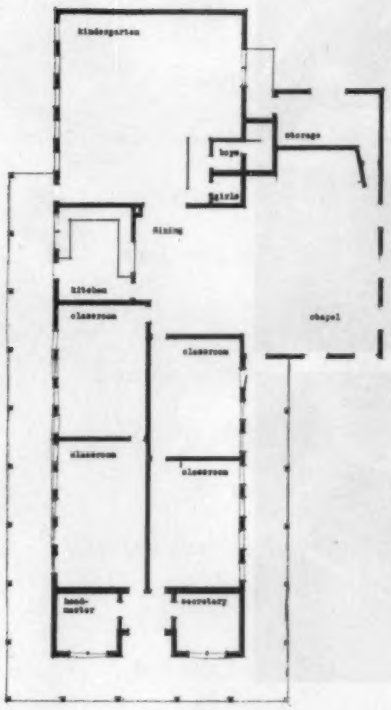


TWO LOW-BUDGET SCHOOL PROJECTS

Dearborn-Massar photos

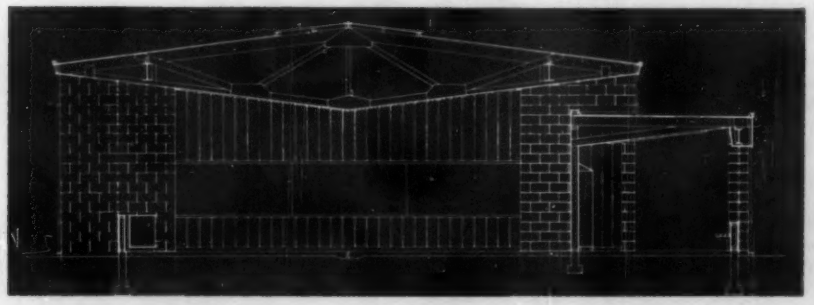
Addition, Jefferson Elementary School, Tacoma, Washington

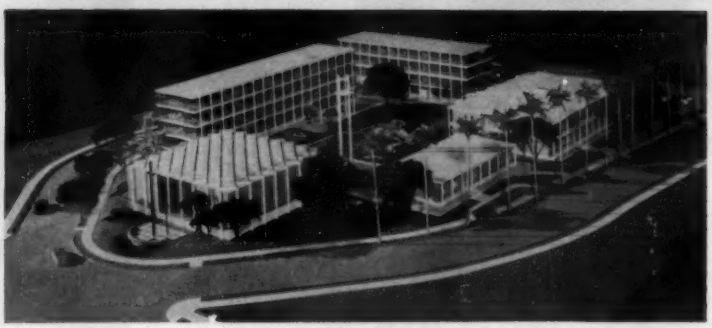
This single-loaded corridor scheme for an eight-classroom wing added onto an existing elementary school proved an economical solution: including architects' fee, its cost came to $10.84 per sq ft. The simple structural system consists of concrete block piers, 28 ft apart, which carry the entire roof load. The diamond-shaped trusses of the roof structure are hung on steel beams which rest on the concrete piers. A continuous skylight with a luminous ceiling beneath provides uniform lighting in the rooms. Electric radiant heat in the concrete floor slab is used with supplementary units in the windows. David Hopkins was mechanical engineer; Walter Gordon, electrical engineer; Sitts and Hill, structural engineer.



This building—once a concrete block roadhouse—makes temporary but pleasant provision for a newly organized Episcopal day school with classes from kindergarten through fourth grade. Wherever possible existing internal spaces were left unchanged. The kitchen remained where it was, but the bandstand and coatrooms became offices and the rest of the space was divided into classrooms. The chapel was added, a simple and small but effective space. Three sides of the original building are surrounded by an outdoor corridor roofed with translucent plastic and walled with a louver screen painted light blue. The old building was painted dark blue to de-emphasize it. Cost of renovation and addition, including new wiring and heating system, was $17,000. Colors here and at Jefferson School are by Thomas Jensen.

IN THE NORTHWEST *Liddle & Jones, Architects*

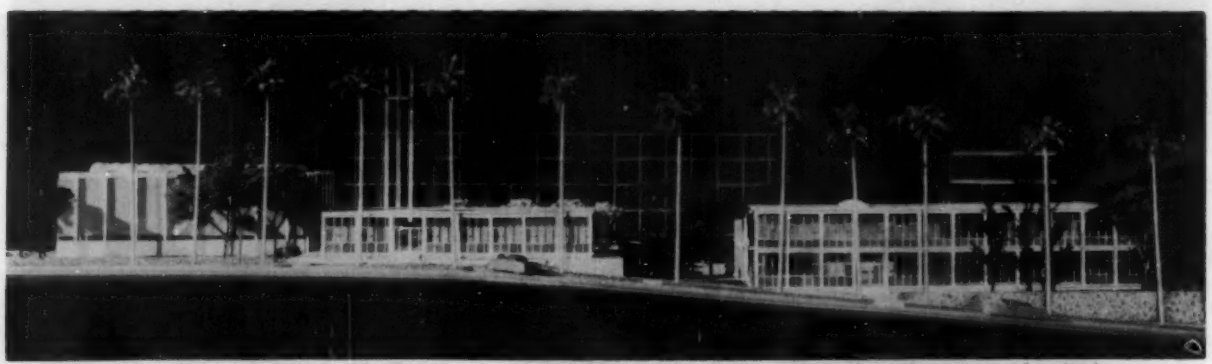




New campus for West's only Episcopal Theological Seminary

In masterplanning the new campus for the Church Divinity School of the Pacific in Berkeley, Calif., the architects, Skidmore, Owings and Merrill of San Francisco, faced two very practical problems: how to provide for off-street parking, and how to provide for continuous operation of the school during a four-phase construction program. The parking area, located for easy access from the most important of the three streets that bound the site, acts as a buffer between the street noise and campus. First units to be constructed will be the academic building (at bottom left in top photograph) and the parking area adjoining it. The chapel, located on the highest part of the site, the administration building and the upper terrace will be phase two of the program; refectory, dining court, kitchen, dormitories and leisure facilities are later phases.

Focal point of the group, physically as well as symbolically, will be the chapel. Designed as a cube whose only light will come from above, the chapel will have a gray masonry base, concrete columns, redwood walls and a one-foot-high glass band along the perimeter. Below the concrete diagrid roof structure with its skylight units will be a horizontal plane of glass, varying in tone from dark gray at the outer walls to light gray at the center aisle, with the greatest light over the altar. A wood louver ceiling in triangular shapes will be hung below the glass plane. The upper terrace is designed to function as part of the chapel, as point of origin for ecclesiastical processions and as a place for special services.



Chapel is at site's highest elevation, with administration and academic building below; at rear, beyond court, are dormitories

"Fellow Architects: Ever wonder why Carroll Sagar & Associates can meet your installation deadlines? Well, it's because of this admirable—truly admirable—warehouse. Stacked to the ceiling joists with the world's finest...

well, just look at these labels: Herman Miller, Knoll, Glenn, Brown Saltman, Dux, Lunning, Haskell Gateway, Kasparian, Vista, Costa Mesa, Pacific Upholstery, Eames Chairs and John Stuart. Howard Miller's clocks and bubbles. Architectural Pottery, fabrics and lighting.

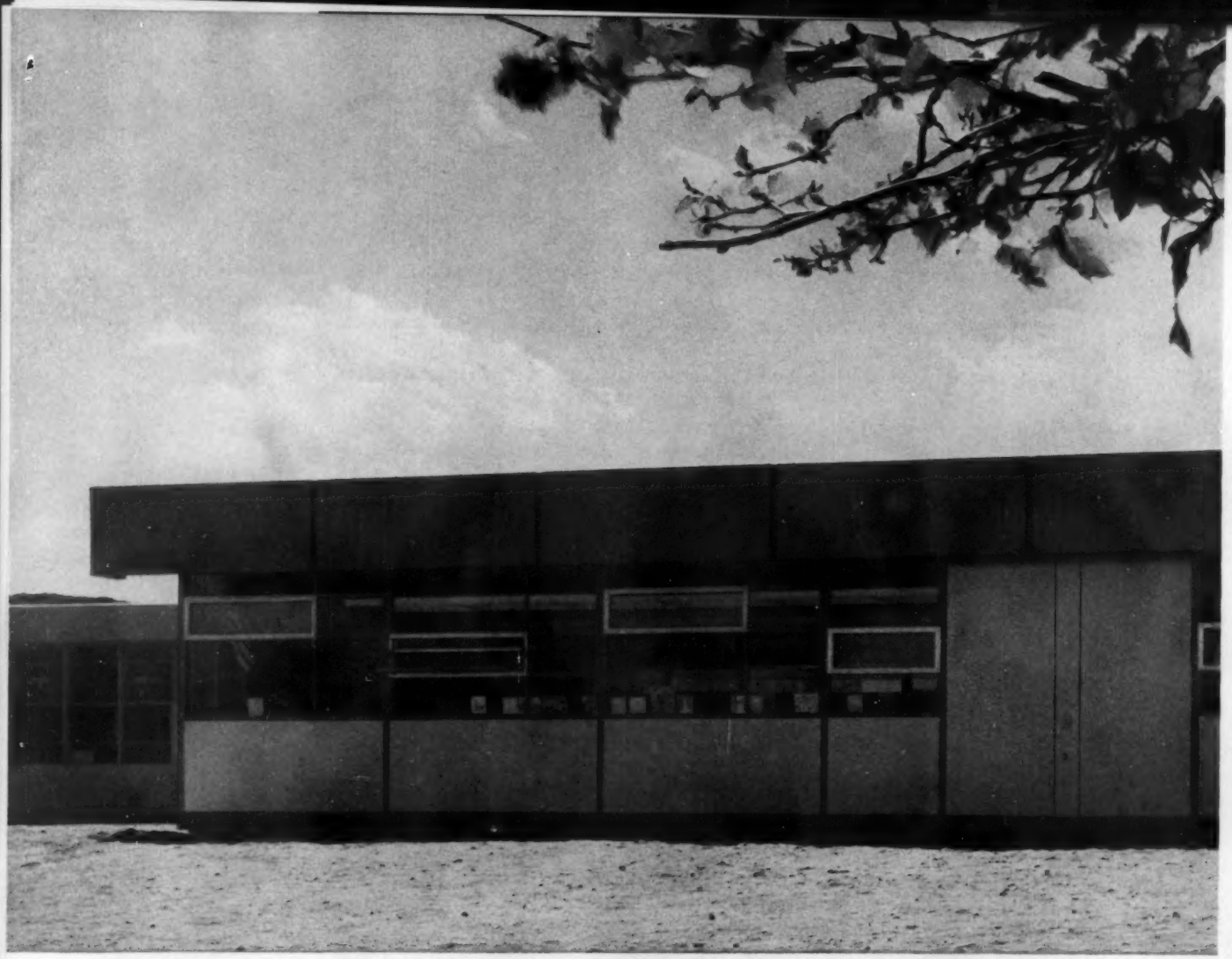
Et cetera, et cetera.
But see them out of their crates.
Visit Carroll Sagar
& Associates showroom."

Interior planning, too.
Wholesale only

CARROLL SAGAR & ASSOCIATES

8833 Beverly Boulevard
Los Angeles 48, California

BRadshaw 2-6582 · CRestview 4-7243



All-steel school blends beauty and versatility on the desert

IN THE SHADOWS of the San Jacinto mountains, southeast of Palm Springs, the simple, modular silhouette of this striking steel school stands in sharp contrast against the casual disorder of the desert terrain.

STEEL MADE POSSIBLE high-style design at low-level cost. Steel was fast... the frame (10″ WF 21 beams and 3″x3″ x 3/16″ columns of USS Steel) went up in a day! And the school bell summoned students into the finished building 89 days later! Steel met and mastered the varied building and maintenance problems of the desert. The walls, durable, double panels of USS Sheets, hide built-in sound-proofing and thermal insulation to minimize noise and heat. The roof, a corduroy pattern of steel decking, covers 35 feet, with a 10-ft. clear span between purlins. Standing seams richochet the sun's rays to help keep classrooms cool.

DESIGN VERSATILITY was all but limitless with steel. The 8-ft. module offers versatile arrangement of doors and windows. Classrooms may be expanded four or eight feet with minor framing changes. And all exposed steel is attuned to the desert site in warm tones of sienna, sand and umber.

THIS is building with steel...as timeless as the desert.

CONSIDER the many advantages of steel, then consult United States Steel . . . a single Western source for steel for every purpose. Offices in 11 Western cities.

Columbia-Geneva Steel Division of USS TRADEMARK **United States Steel**

New addition by Calcor Corp. to Cathedral City Elementary School (Palm Springs Unified School District), California

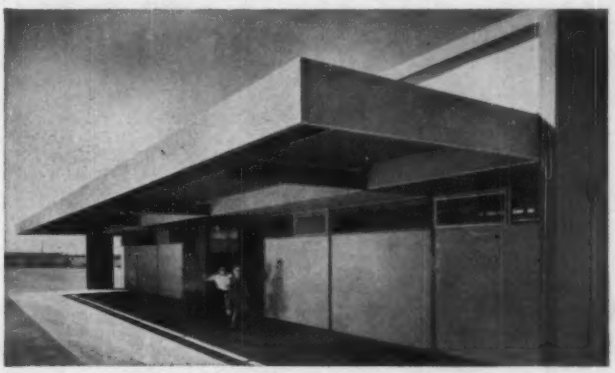
The United States Steel products in this school are used by leading fabricators and are also available through steel jobbers in your area.

Architects:
Wexler & Harrison, Palm Springs, California

Steel Fabrication and Erection:
Calcor Corporation, Huntington Park, California

Structural Engineers:
Parker Zehnder & Associates, Los Angeles, Calif.

ARCHITECTS & ENGINEERS: Write for your free copy of *"New Ideas in School Construction"*, now being prepared. This new booklet will provide steel application ideas, specifications data, and advice on the maintenance and painting of steel. Write: Architects & Engineers Service, Dept. AR11, United States Steel Corporation, Columbia-Geneva Steel Division, 120 Montgomery Street, San Francisco 6.



Twin steel wing walls frame the entrance and carry all utilities, hidden . . . but handy, while a floating steel marquee juts from the face to furnish welcome shade on the walkway below.

Build tomorrow's schools today with USS Steel

"EVERYTHING HINGES ON HAGER!"*

C. Hager & Sons Hinge Mfg. Co. • St. Louis 4, Mo.
In Canada, Hager Hinge Canada Limited • Kitchener, Ontario

Founded 1849—Every Hager Hinge Swings on 100 Years of Experience

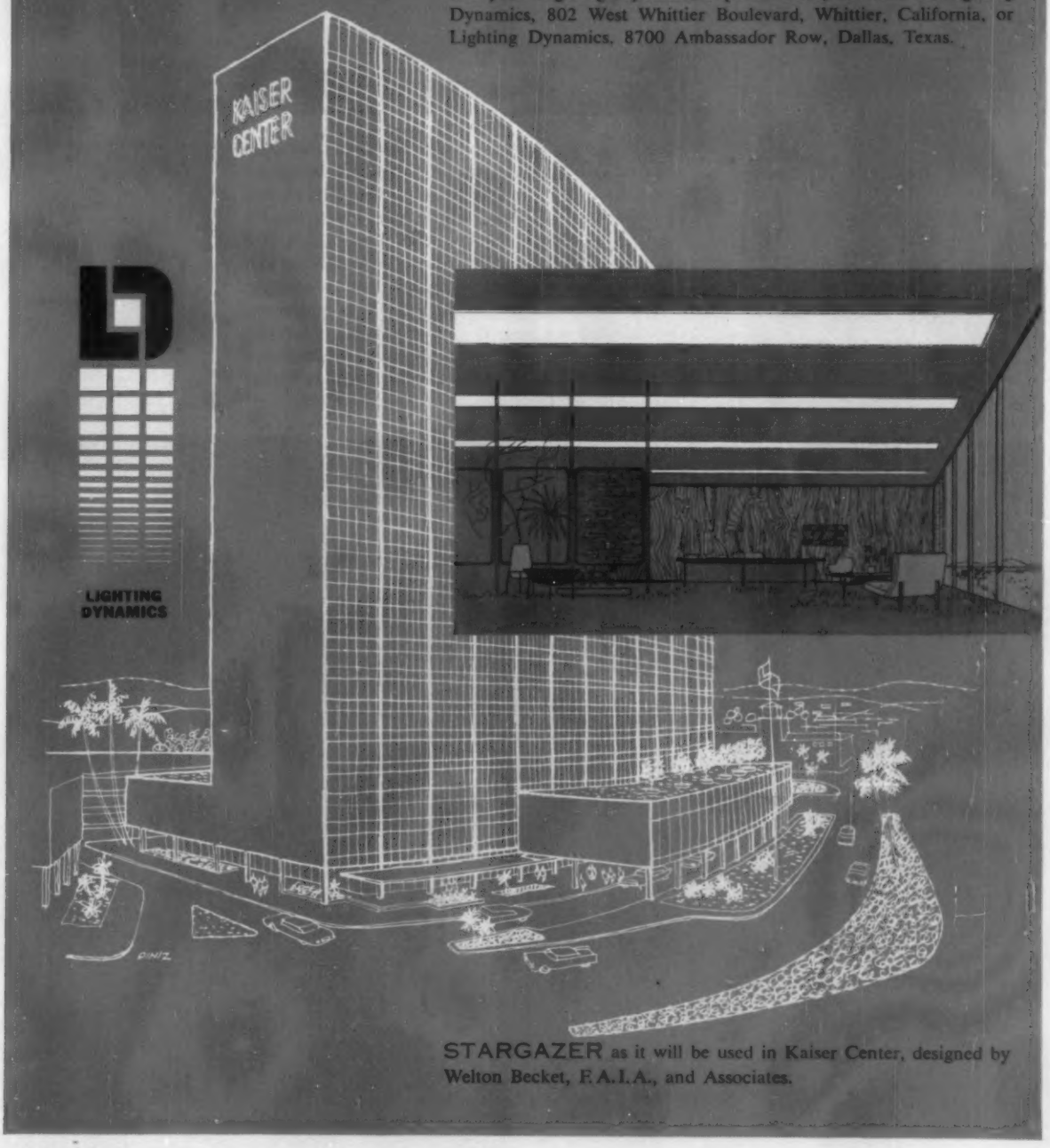
HAGER HINGES *®

problem

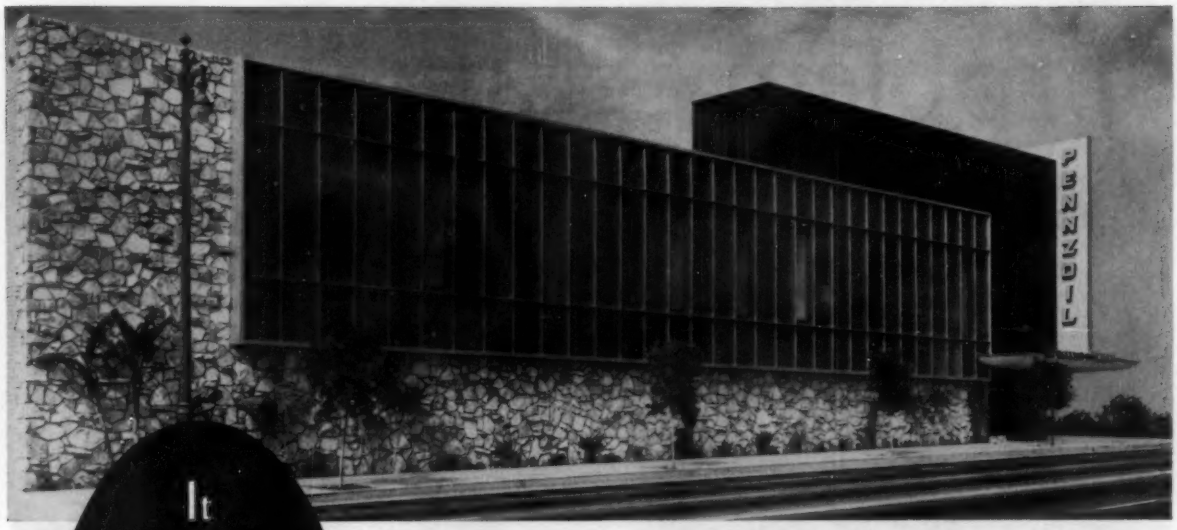
A recessed troffer with half-inch aluminum louvers was needed for Welton Becket's striking modular lighting plan for the offices in the spectacular 28-story Kaiser Center in Oakland, California.

solution

STARGAZER with a distinctive half-inch aluminum louver was developed at Lighting Dynamics especially for Kaiser Center. Stargazer matches the fine detailing and integrates perfectly with the radiant acoustical ceiling. Now Stargazer is available for other advanced applications. It's easily installed—just pushes-up-and-clips. It has a shallow design; and is surprisingly inexpensive . . . comes in a variety of widths and lengths. Durable, Bonderized, and electrostatic, high reflectance finishes. FOR MORE COMPLETE INFORMATION, call your Lighting Dynamics representative, or write to Lighting Dynamics, 802 West Whittier Boulevard, Whittier, California, or Lighting Dynamics, 8700 Ambassador Row, Dallas, Texas.



STARGAZER as it will be used in Kaiser Center, designed by Welton Becket, F.A.I.A., and Associates.



It "marries" well, does authentic Palos Verdes STONE

One of the reasons why architects favor authentic Palos Verdes Stone is because it adapts so beautifully with other materials and design elements. Here, two distinguished buildings show how Palos Verdes "Mossback" Stone, handled with imagination and taste, adds vitality and distinction to completely different modern building treatments. And this beauty will not fade; being natural stone, it is permanent and maintenance-free. If you would like a catalog, color-illustrated, on California's most distinguished decorative stone, write to Service Dept., Palos Verdes Stone, 612 So. Flower St., Los Angeles, Calif.

PENNZOIL BUILDING
1630 Olympic Blvd.
Los Angeles

Architects:
Stiles and Robert Clements

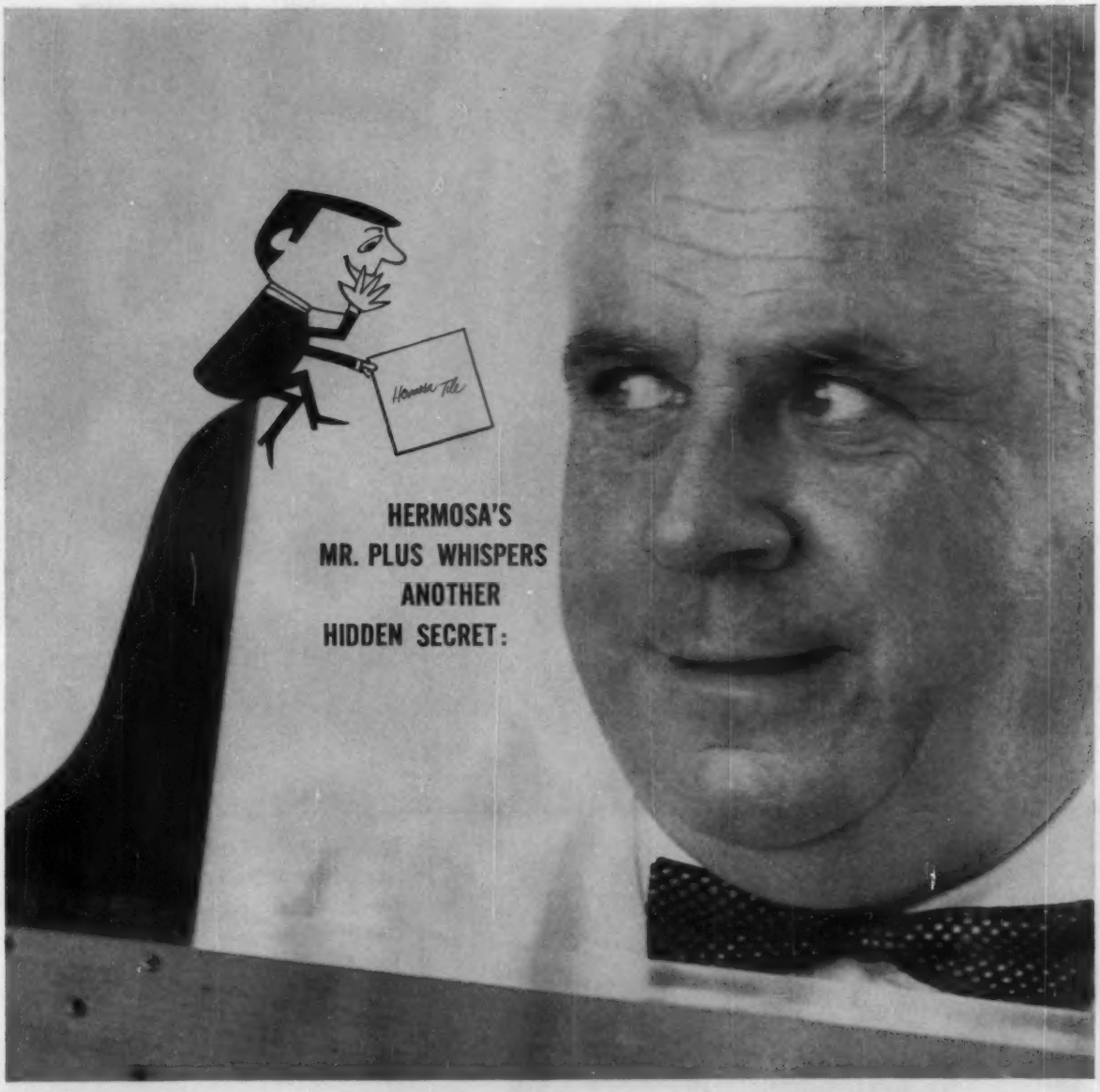
Masonry Contractor:
N. B. Lesher & Son, Inc.

TEAMSTERS UNION BLDG.
1616 W. 9th St.
Los Angeles

Architects:
Walker, Kalionzes & Klingerman

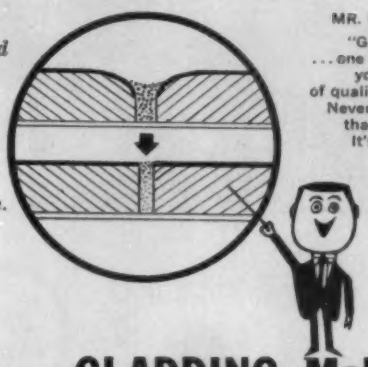
Masonry Contractor:
N. B. Lesher & Son, Inc.

To be sure of Authentic Palos Verdes Stone, always specify "— as produced by Great Lakes Carbon Corporation"



"USE SQUARE-EDGE: ANOTHER HIDDEN SECRET FOR THE BEST TILE INSTALLATION"

This is a plus important to YOU as an architect. When you specify HERMOSA *glazed ceramic* TILE, you *know* the job will be FLUSH tile-to-tile...assuring a smooth, elegant appearance without grout variations. Your client gets the kind of installation *you* planned...one *you* can depend on for client satisfaction...a showcase for the future. *Square-Edge Design* is a real PLUS... just one of the six major reasons you'll be happier with Hermosa. For commercial or residential, specify genuine—



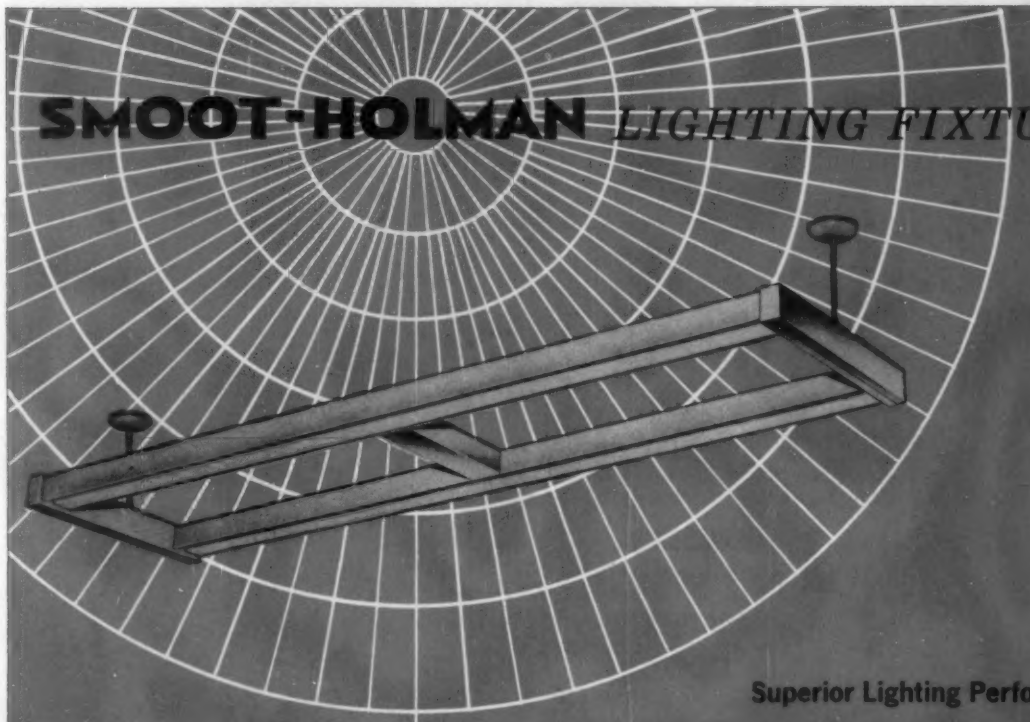
MR. PLUS TIP:

"Get the tile job ...one that lives up to your own high standards of quality and job-satisfaction. Never, never go for less than HERMOSA TILE! It's worthy of your reputation."

HERMOSA *glazed ceramic* **TILE** *a product of* **GLADDING, McBEAN & CO.**

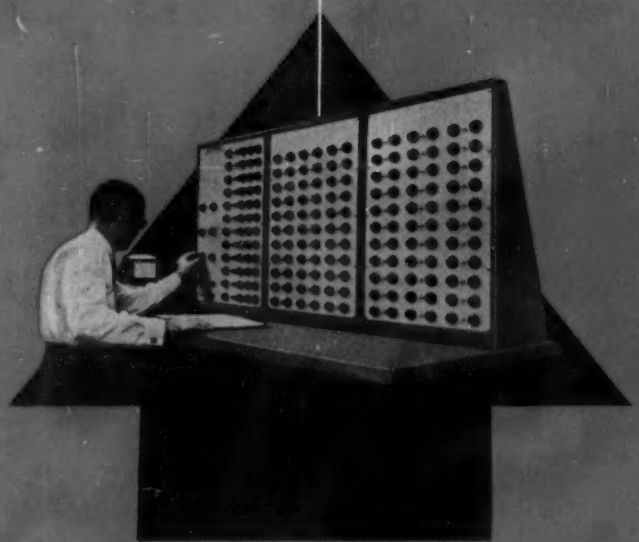
SHOWROOM LOCATIONS: Los Angeles · San Francisco · Seattle · Portland · Spokane · Phoenix

SMOOT-HOLMAN *LIGHTING FIXTURES*



Superior Lighting Performance!
Scientific Lighting Design!

MADE POSSIBLE BY THE NEW SMOOT-HOLMAN ANALOGUE COMPUTER!



Through the use of an advance design, analogue computer, Smoot-Holman research engineers are now able to design fixtures that give superior performance and are the ultimate in construction and efficiency. This new computer, the first of its type ever built for commercial use, solves problems of fixture design, as well as many other problems in the field of lighting. It's operation is based on the formation of an electrical network analogue of the distribution of light flux. Here is another example of Smoot-Holman's research and development to bring you *"Tomorrow's Lighting Today."*

SMOOT-HOLMAN COMPANY
Inglewood • California

Steel building by Pascoe Steel Corp., Pomona, California

"Building with steel gave us good design at low cost"

JAMES B. HAWTHORNE
President, Hawthorne Machinery Co.
San Diego, California

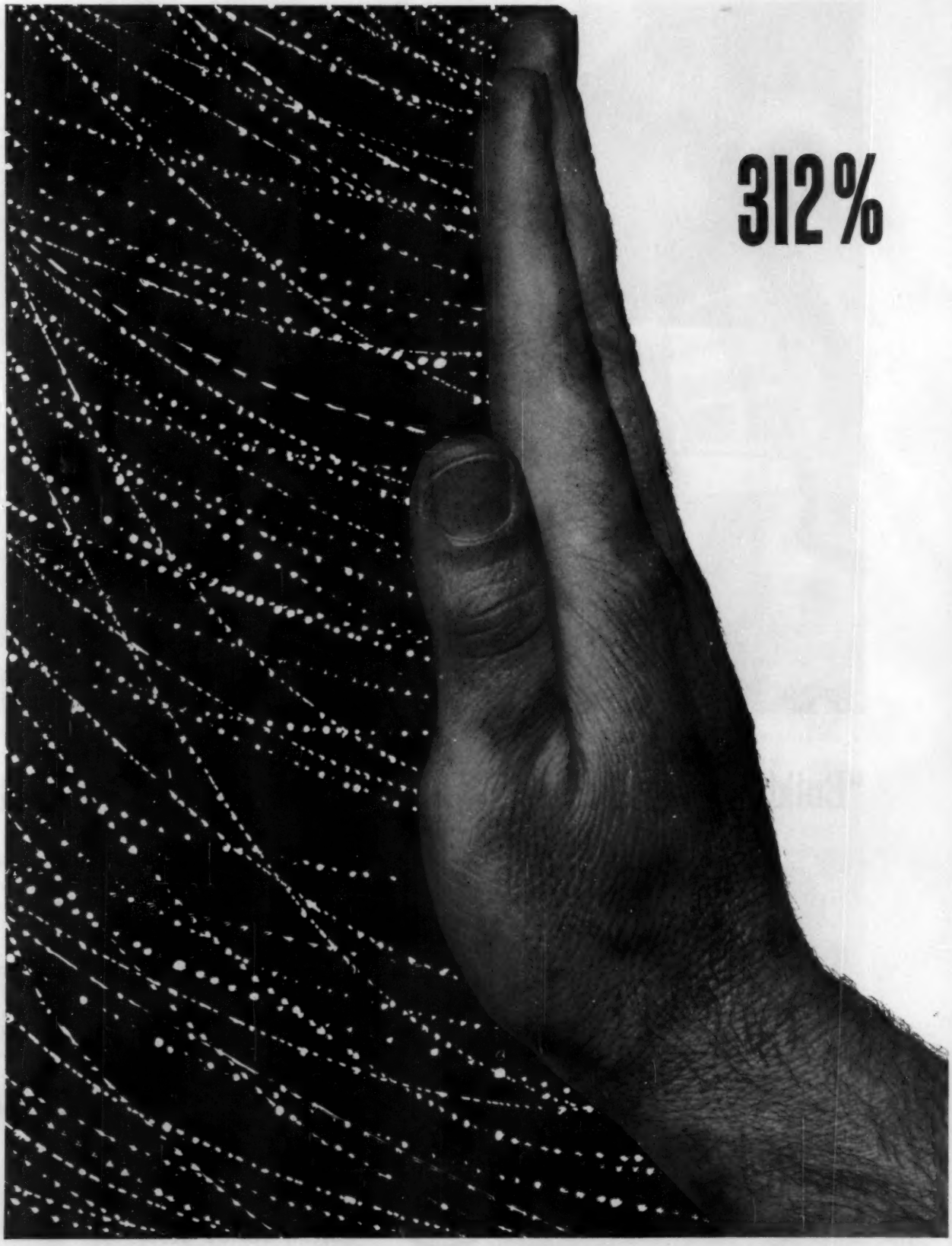
"Using steel panels on our new maintenance building was a nice way to complement our adjoining white masonry office. This quality of harmony gave us a handsome building to meet rigid county construction codes. And behind it was sound economy! After foundation work, Pascoe Steel Corporation put up this 24,000 sq. ft. building using USS Galvanized Sheets, for under $2 a sq. ft. We know, from a look at the losing bids, it would have cost us at least double with other materials. Good looks and economy like this add up to a long-term investment in durable, low-cost construction!"

MORE INFORMATION about steel buildings can be obtained from your local steel building dealer, architect or builder. Or write us outlining your interests. Address: Room 1260, 120 Montgomery Street, San Francisco 6, Attn: Department AR-11.

GIVE YOUR BUILDINGS THE ADVANTAGES OF STEEL...USS STEEL

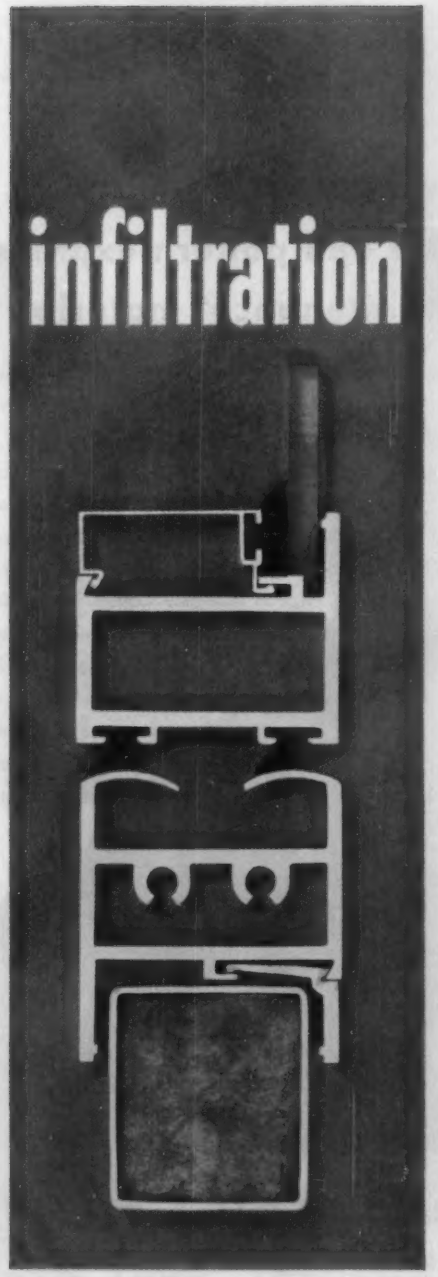
USS
TRADEMARK

Columbia-Geneva Steel Division of United States Steel



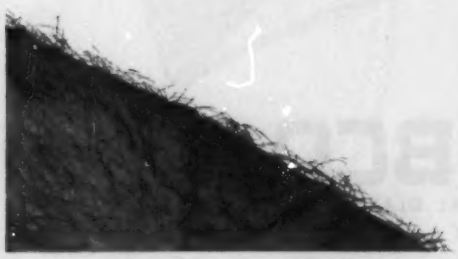
SAN FRANCISCO • LOS ANGELES • SAN DIEGO • PORTLAND • SEATTLE

more infiltration resistance



Soulé Series 800 Vertically Pivoted Aluminum Windows

Severest hurricane tests prove Soulé series 800 vertically pivoted aluminum windows outperform accepted industry standards for air and water infiltration. 0.008 cu. ft. per minute air infiltration per lineal foot of crack with a static air pressure equal to a wind velocity of 25 mph was reported in approved infiltration chamber tests (standards call for a maximum of 0.025). As installed in Soulé series 3100 split mullion curtain wall, series 800 showed zero water infiltration in 100 mph hurricane tests! Add continuous vinyl weather stripping, stainless steel pivot pins, tubular ventilator sections, snap-in glazing beads and Soulé alumilite finish and you have the reasons why series 800 is the best performing vertically pivoted aluminum window. Call for a presentation.



Soulé
LEADER IN METAL WINDOWS

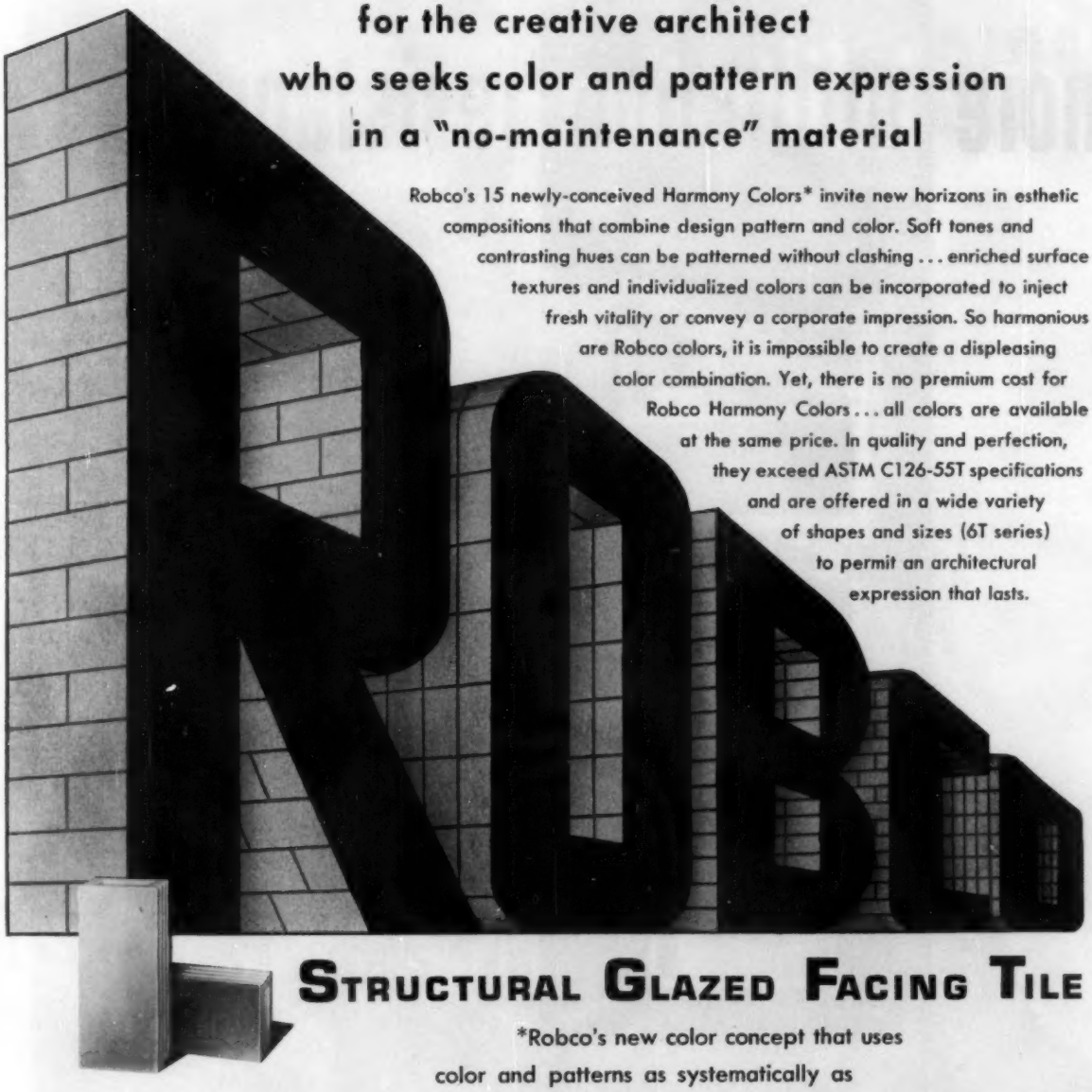
SOULE' STEEL COMPANY

SPOKANE • PHOENIX • SALT LAKE CITY • DALLAS • SACRAMENTO

member: Structural Clay Products Institute

for the creative architect who seeks color and pattern expression in a "no-maintenance" material

Robco's 15 newly-conceived Harmony Colors* invite new horizons in esthetic compositions that combine design pattern and color. Soft tones and contrasting hues can be patterned without clashing . . . enriched surface textures and individualized colors can be incorporated to inject fresh vitality or convey a corporate impression. So harmonious are Robco colors, it is impossible to create a displeasing color combination. Yet, there is no premium cost for Robco Harmony Colors . . . all colors are available at the same price. In quality and perfection, they exceed ASTM C126-55T specifications and are offered in a wide variety of shapes and sizes (6T series) to permit an architectural expression that lasts.



STRUCTURAL GLAZED FACING TILE

*Robco's new color concept that uses color and patterns as systematically as the chords on a piano keyboard.

SINCE 1880

THE ROBINSON

ROBCO

STRUCTURAL GLAZED FACING TILE
IN 15 NEW HARMONY COLORS

BRICK AND TILE CO., 500 SO. SANTA FE DR., DENVER 23, COLO.

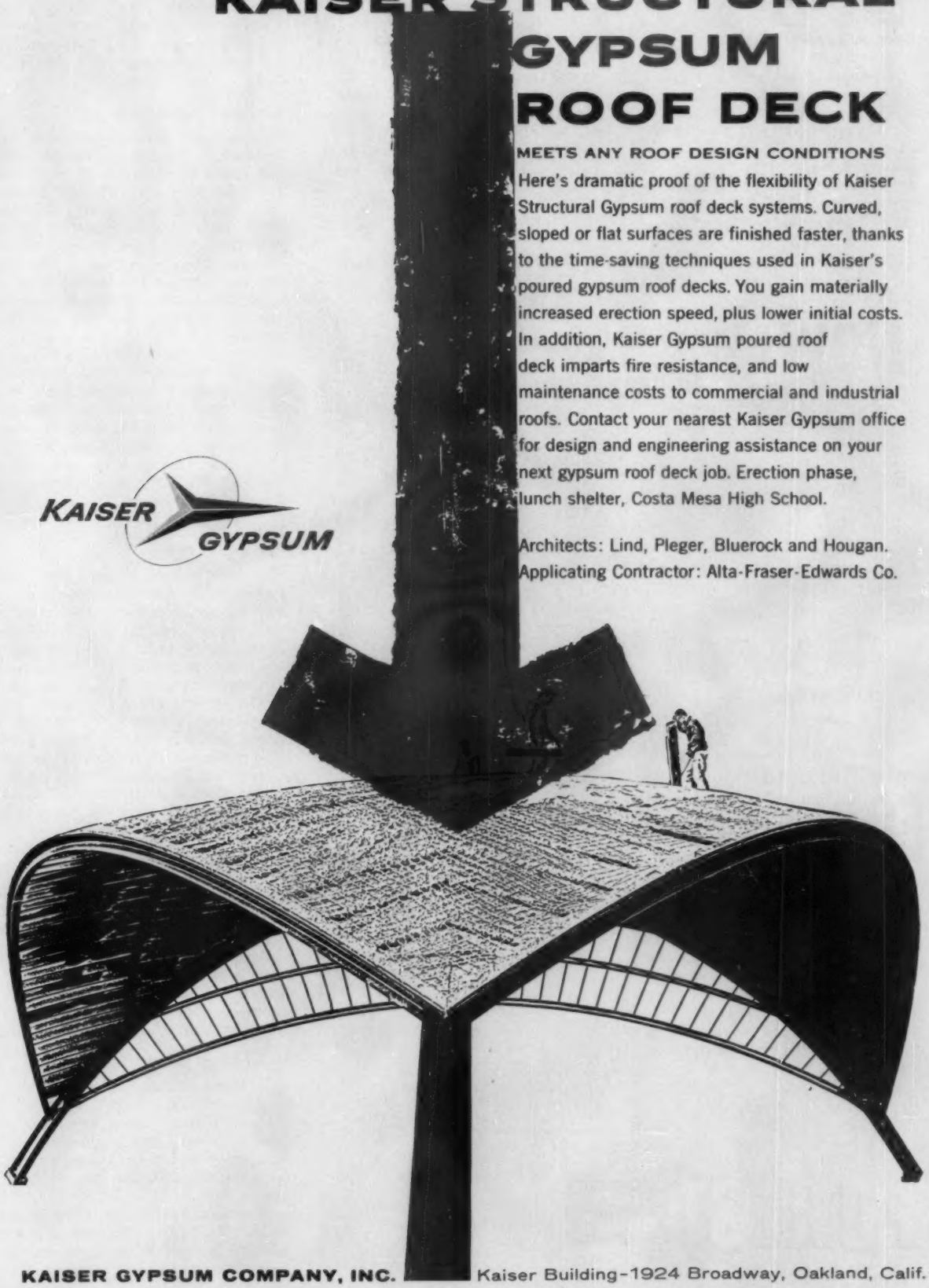
KAISER STRUCTURAL GYPSUM ROOF DECK

MEETS ANY ROOF DESIGN CONDITIONS

Here's dramatic proof of the flexibility of Kaiser Structural Gypsum roof deck systems. Curved, sloped or flat surfaces are finished faster, thanks to the time-saving techniques used in Kaiser's poured gypsum roof decks. You gain materially increased erection speed, plus lower initial costs. In addition, Kaiser Gypsum poured roof deck imparts fire resistance, and low maintenance costs to commercial and industrial roofs. Contact your nearest Kaiser Gypsum office for design and engineering assistance on your next gypsum roof deck job. Erection phase, lunch shelter, Costa Mesa High School.

Architects: Lind, Pleger, Bluerock and Hougan.
Applicating Contractor: Alta-Fraser-Edwards Co.

KAISER GYPSUM



KAISER GYPSUM COMPANY, INC. Kaiser Building-1924 Broadway, Oakland, Calif.

Oregon Exposition Set for 1959

Oregon's Centennial Exposition, due to open in June, 1959, will be a 100-day event and will include major participation of the arts and architecture, probably primarily in exhibitions, but also in structures for the Fair. Stewart and Richardson, Portland architects, are preparing the master plan.

John Storrs, also of Portland, is architect for a pavilion for the State's forest industry. The pavilion, a series of 50 sq ft hyperbolic paraboloids supported at six points, will be a permanent structure like its earlier counterpart, the huge log Forestry Building of the Lewis and Clark Exposition in 1905.

The inevitable Disneyland-type of attraction will also be included but will be in the Northwest historical tradition, with a frontier town, an Indian village, a "Lewis and Clark village," and a boom town.

The Exposition will include a two-week International Trade Fair. It will be situated on a 65-acre site on the Columbia River, eight miles from Portland, and will use the existing Pacific International Exposition building as its main building.

It's San Francisco in 1960

The national A.I.A. convention will be held in San Francisco in 1960, the board of directors of the Institute has decided. Although Denver was the original location for the 1960 convention, uncertainty about readiness of the new Denver Hilton caused a change in plans. (The Hilton will open in the fall of 1959, as a result of the recently negotiated lease between Zeckendorf and Hilton, but A.I.A. could not know that this would be effected in time to permit a Denver convention.)

A steering committee from the Northern California chapter, host to the convention, is already at work on the plans. John Lyon Reid is chairman; members include Henry Shubart, William Stephen Allen, and George Rockrise.

Roller Coaster Bridge Not Doing Well

The North Bay bridge from San Rafael to Richmond is not doing so well as its promoters—the State of California—thought it would. When it was being built some four years ago, architects deplored its design, but too late to remedy it in any way.

The bridge, opened to traffic two years ago, is a two-level structure with a hump in its back which gives it the effect of a roller coaster and caused Dr. Stephen Pepper of the University of California's Department of Philosophy to refer to it as an "esthetic disaster."

The disaster of its design caused not a ripple among the engineers of the State Toll Bridge Authority, though the sight of the bridge invariably makes every architect who sees it cringe. But now that dollars are involved, the State is getting worried. For the number of cars which use it is about one half the number expected and the revenue is about a third less than predicted.

Solar Still Desalts Water

A California engineer, Edward Marie of Castro Valley, is building a sea water conversion system which, he says, can be operated economically and can also be used to harness the sun's heat for industrial power.

The plant, located near San Diego, includes a 34-ft tower with a reflector which catches sunlight and reflects it down to a large mirror. This

pre-finished
FOREST THRIF-TONE

FOREST Thrif-Tone is a durable, easy to apply hardboard material specifically designed for interior walls. Its tempered surface is prefinished a light smoke gray color and is far less costly than most finished dry wall products.

You have a choice of two highly popular wall paneling designs, Random Groove (4′ x 8′ x ¼″) and Tee-N-Gee (8′ x 16″ x ¼″).

Painting or other finishing is not necessary. If another color is desired, one coat covers with true depth of color. The light colored baked-in surface of Forest Thrif-Tone won't rub or wear off.

Dirt and scuff marks wash off easily with a damp cloth; stubborn stains such as grease, lipstick, crayon marks and food stains wipe off without a trace using cleaners or common solvents.

QUALITY WALL PANELING...LOW COST

If you are interested in cutting costs in your homes and still give durable walls with an attractive appearance look into FOREST Thrif-Tone. For more information write:

FOREST HARD BOARD®

FOREST FIBER PRODUCTS COMPANY
P.O. Box 68AR, Forest Grove, Oregon

beauty

Beautiful, yes – but more than that, Architectural Porcelain Enamel provides the most *practical* means of enclosing and facing modern structures. The light weight of porcelain enamel panels minimizes dead load and promotes economical erection speed. Colors, as varied as the spectrum, are permanently unfading with finishes that retain the original freshness for years on end. Maintenance is minimum. Wide adaptability for unlimited building ideas makes porcelain enamel the ideal material for facing *new and existing* structures. Explore its possibilities. Write for details and color guide, today.

ARCHITECTURAL PORCELAIN ENAMEL

ONLY PORCELAIN ENAMEL CAN DO SO MUCH FOR SO LITTLE

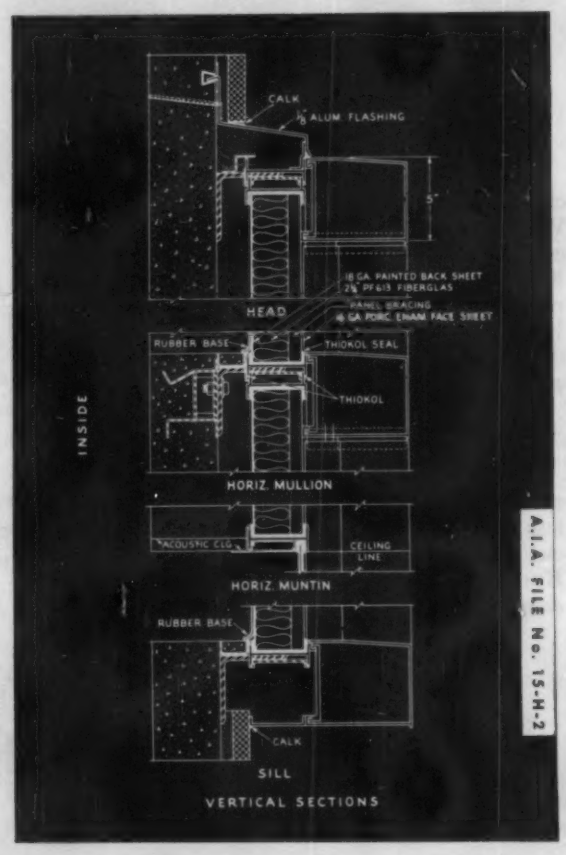
This new Los Angeles office building of The Texas Company features approximately 35,000 square feet of Architectural Porcelain Enamel – including curtain walls, penthouse, canopy and sign letters at top.

Architect
Welton Becket, F.A.I.A., and Associates, Los Angeles

General Contractor
Del E. Webb Construction Co., Los Angeles

Curtain Wall Assembly and Erection
Ador Corporation, Fullerton, California

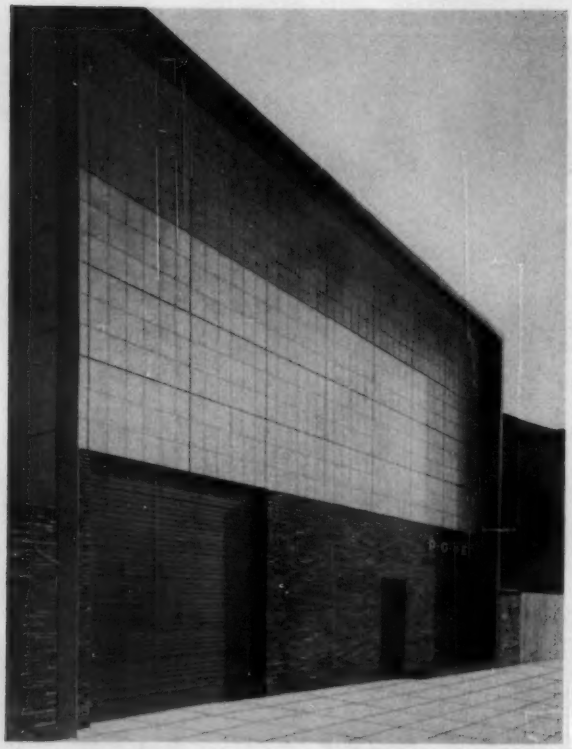
Porcelain Enamel Panels Fabricated and Enameled by
California Metal Enameling Co., Los Angeles



ARCHITECTURAL DIVISION
PORCELAIN ENAMEL PUBLICITY BUREAU
P. O. BOX 186 • EAST PASADENA STATION • PASADENA 8, CALIFORNIA
3770 PIEDMONT AVENUE • OAKLAND 11, CALIFORNIA

Specify for: Curtain Walls • Wainscoting • Canopy Facia • Marquee Facia • Louvers • Building Facia Letters • Spandrels • Columns • Mullion Covers Parapet Caps • Coping • Water Tables • Bulkheads Tower Facing • Sun Shades.

Lifetime PORCELAIN ENAMEL
PORCELAIN ENAMEL INSTITUTE INC.



Pacific Gas & Electric Co. Marina Sub-Station, San Francisco
Kraftile Veneer gives acceptability to industrial buildings adjacent to residential sections.

LOW-COST DISTINCTION FOR INDUSTRIAL BUILDINGS

Whether you're planning an industrial, commercial or public service building, you'll find that Kraftile Veneer offers lasting beauty, cleanliness and lower-cost installation for exterior or interior application. Especially adaptable to the enhancement of non-residential structures located in residential areas, Kraftile Veneer is easily installed over wood, steel or concrete, on new construction or modernization projects.

KRAFTILE VENEER SAVES 60% ON SPACE AND WEIGHT

Kraftile glazed ceramic veneer panels of ⅜" thickness weigh only 4 lbs. per square foot, require less structural support than heavier facings, can be cut on the job for faster handling. Select range of Kraftone colors available. Ask for Free Fact File of shapes, specifications, installation examples.

MADE IN THE WEST---FOR WESTERN CONSTRUCTION

KRAFTILE

KRAFTILE COMPANY • NILES, CALIFORNIA

Waste Space

East to Denver, North to Canada,
Home to Monterey

Fall being the time for regional conferences (of which more on page 64-1 of this issue), and the West having three A.I.A. regions for its 11 states, the fall is the time for much traveling. This year it was all concentrated in the brief space of three and a half weeks, but the distance it encompassed was anything but concentrated.

First to Denver, where Zeckendorf's Courthouse Square project is impressively reaching a point of evaluation—the May company-Daniels & Fisher store is complete and in use, the hotel is rising above ground. The shopping space in the hyperbolic paraboloid in front of the main store is delightful, as pleasant an experience in commercial interiors as possible. And the plaza beside it, though small, has inviting qualities. A few blocks away Mile High Center looks better than it did before, wearing its sober dignity with a sort of assurance. But its plaza and fountain area looked lonely. Even in the heat of a terrible September day, there was no one around refreshing himself in the sight and sound of the water.

It is hard to believe that this is the same Denver of before the war because its air of vitality is so great and the manifestation of this vitality is so much in the new buildings which are everywhere—some good, some indifferent, some bad. The curtain wall is, of course, ubiquitous. Like New Orleans' special kind of cream cheese which has disappeared, the individuality of the office building and the apartment house seems destined to be lost in the overwhelming anonymity of the curtain wall.

From Denver to Colorado Springs—with almost 200 other architects—to see the Air Force Academy, a complete city on its 17,000 acre site, not just a school. The Academic complex is a tremendous experience—but that's a story for another month.

Then to Yosemite where the Structural Engineers Association of California held its annual convention. The Ahwahnee, built in 1927, still looks well, still holds its own among the hotels of the National Parks, still fits its surroundings with an enviable appropriateness. The newer work in the Valley seems more imposed, less a straightforward acceptance of the conditions of the locality and of the potentials for architectural expression.

Although it rained for four days straight at the Northwest Conference, held in Harrison Hotel, Harrison Hot Springs, British Columbia, nothing could dampen the companionship of the architects from the four states that comprise that region. Hawaii, when it becomes a part of the Northwest (willy-nilly, that's what the A.I.A. says it will be!) next year, will find the warmth of fellowship it little could have expected on the mainland.

Seattle is as yet unmoved by its plans for the 1961 fair, but it has a theme (Century 21) and a primary architect (Paul Thiry) and a chairman of cultural arts (Robert L. Durham), and a site on First Street Hill. So it's off to a good start.

Southward to Monterey, the weather turned fair and warm, and the California Council convention proved a tremendous success, even more of a success that its planning committee had dared to hope it might be. With "Creativeness in Architecture" as theme and a list of speakers that read like Who's Who in Architecture, and a setting like Monterey—it seemed a cinch. But back of it was a lot of hard work. I know: along with Tom Elston, Bill Gillis, Worley Wong and Walter Stromquist, I worked on it under chairman Loy Chamberlain.

E.K.T.

the look of *Luxury*

Elevator Cabs and Doors by A. J. BAYER CO.

These custom styled elevator cabs illustrate the design possibilities available at A. J. Bayer Company. Designs can employ bronze, brass, nickel-silver, aluminum, stainless steel or furniture steel with baked-on enamel rubbed to an eggshell gloss finish.

Elevators can be beautiful—strikingly modern, classically simple or richly elegant—when they are custom styled and constructed by A. J. Bayer Company. There are no restrictions or limitations. The high quality craftsmanship of A. J. Bayer Company assures a perfect combination of polished metals, fine grained woods and/or any of the new modern materials to complement the style or design motifs of your building. Every Bayer installation of elevator cabs and doors is noted for its quality materials, structural soundness and fine workmanship. *Write for literature today!*

A Mark of Quality and Distinction

Since BAYER *1902*

A. J. BAYER CO.

Slauson and Santa Fe, Los Angeles 58, Calif.
LUdlow 5-2171

HANDRAILS

ENTRANCES & DOORS

ELEVATOR CABS & DOORS

B

ARCHITECTURAL METAL LETTERS

JUST LOOK AT THESE COLORS...ON WOOD!

See for yourself the beauty and the value that Olympic Stains add to homes. Write "colors" on a postcard for samples—on wood—of Olympic Stains, the best by far.

★ *Heavy-Bodied*
★ *Penetrating*
★ *Redwood*
★ *Polar White*
★ *Bleachtox*

Send to:

OLYMPIC
STAINED PRODUCTS CO.
1118 LEARY WAY, SEATTLE 7, WASHINGTON

in turn directs the rays upward to a panel of 110 reflectors, of varying size, which focus the rays on a system of salt water-conveying copper coils. The plant is being built for a bottled water company. When completed, its designer expects it to have a capacity of 60,000 gallons of fresh water per day—each day that has nine hours of sunshine.

Space Standards Reports Issued

A series of reports on recommended space standards for certain areas of the house is being prepared and issued by the Western States and the United States Department of Agriculture, Agricultural Research Service, Institute of Home Economics.

Latest reports in the series to be issued are for clothing storage, food preservation and storage for household textiles. Earlier, requirements for indoor dining, indoor play area and toy storage for pre-school children, inside drying lines for laundry and installation heights for separate ovens were issued.

Other areas to be studied include bathroom, bedroom, business, kitchen, living and special activity.

The reports are available from any of the Agricultural Experiment Stations in Tucson, Ariz.; Berkeley, Calif.; Fort Collins, Colo.; Honolulu; Moscow, Ida., Bozeman, Mont.; Reno, Nev.; State College, N. M.; Corvallis, Ore.; Logan, Utah; Pullman, Wash.; and Laramie, Wyo.

Gruen To Study Fresno Business Center

Complete studies of the central area of Fresno, Calif., will be made by Victor Gruen Associates, as a result of contracts which have been signed by the city's Redevelopment Agency executive director, the president of a group of downtown businessmen, and the chief administrative officer for the city of Fresno.

The studies will include land use plans for the central area; traffic plans to be integrated with the metropolitan area, with special differentiation of the traffic flow of automobiles, trucks and pedestrians; parking plans; civic building locations; and phased implementation of the plans.

Inter-County Area Planning Lacks Support

A three-and-a-half-year-old agency in Colorado known as the Inter-County Regional Planning Commission and made up of the city of Denver and four neighboring counties—Jefferson, Arapahoe, Adams and Douglas—is having hard sledding because Denver's 1958 budget failed to include funds for its share of support to the Commission. It was only a matter of $31,200, but it meant the difference between the Commission's continued existence and its demise.

That the Commission's work had been good and that it was needed was undeniable. But, said Denver's mayor after looking over the budget, "planning is the only thing we can get along without." Others disagreed, particularly in the light of Denver's constantly increasing population and the new suburban developments around the city.

Since the city's attitude seemed adamant, other means for keeping the Commission alive have been suggested. One of these is that the city of Denver may be able to provide much-needed staff work instead of actual dollars, thus participating in the Commission by work if not by money. The suggestion further indicated the possibility that funds might be available, to add to the counties' contributions, which the state would obtain through the federal interstate highway program.

The work of the Commission in its three-and-a-half year existence has been largely in providing basic studies for future park, recreation and transportation development as well as area-wide sewerage and water use, future land use, recreational zoning and model subdivision regulation.

Van Gogh Show Sets S.F. Record

A record crowd of 67,139 people visited the M. H. De Young Memorial Museum to see 84 paintings and 71 watercolors and drawings by Vincent Van Gogh during the show's second week. On one day—Sunday—19,700 people filed through the museum's gallery to see the paintings, most of them never before shown in San Francisco, and some never exhibited before in the United States.

The collection, a comprehensive group containing some of Van Gogh's most celebrated works, will be on exhibit until November 30.

Seattle Fair Bill Approved

President Eisenhower has signed the Seattle "Century 21" exposition bill, authorizing appointment of a federal commissioner and assuring some federal participation in the fair.

The exposition, planned for 1961, will be held on the First Street Hill site which ultimately will become Seattle's new civic center. Paul Thiry was recently named primary architect for the exposition, and other architects for specific buildings will be named shortly.

Golden Gate DOOR...

PROVES BRIDGE-LIKE CONSTRUCTION KEEPS FIAT YEARS AHEAD IN TOILET COMPARTMENT DESIGN

The *inside* story proves it! FIAT'S Golden Gate Door is engineered far beyond accepted standards—steadily absorbs roughest punishment—readily withstands heaviest stress and shock.

LIKE SAN FRANCISCO'S FAMOUS GOLDEN GATE BRIDGE, the FIAT Compartment Door has been designed to meet unusual stress, load and impact factors. FIAT'S bridge-like construction establishes a new standard in compartment door construction.

LOAD EQUALIZER—Heavy gauge channel reinforcing distributes load away from the top hinge—gives triple additional support to the pintle. This extra reinforcing provides permanent, practical protection against unusual loads —specifically, when children hang from or swing on the door.

IMPACT ABSORBER—Formed, heavy gauge plate anchors the slide bolt —distributes shock of severe door "slamming" over wide area. Prevents tearing out of slide bolt or damage to door.

STRESS RESISTOR—Channel type reinforcing unit is interlocked with the panel edges—provides basic side-to-bottom support —anchors *Life-Line** Gravity Hinge in position—positively prevents door "sway."

CLIP AND MAIL COUPON BELOW FOR NEW FIAT LITERATURE

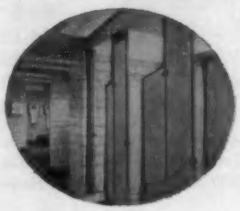
FOUR COMPLETE PLANTS STRATEGICALLY LOCATED FOR BETTER SERVICE LOWER COST

Long Island City 1 New York | Franklin Park Illinois | Los Angeles 63 California | Orillia, Ontario Canada

FIAT

Manufacturing Quality Showers and Compartments since 1922

YEARS AHEAD FEATURES



Wide Range of Models

FIAT offers a range of models to meet every budget. Choose from the ceiling or floor supported *Aristo* with exclusive wood-core pilaster, the flush paneled *Duro* or the economical *Permo* models.

*FIAT TRADEMARK **DUPONT TRADEMARK

FIAT METAL MFG. COMPANY
9319 Belmont Ave., Franklin Park, Illinois

☐ Please send me new, fully illustrated catalog
☐ Please have your representative call.

Firm_____

Address_____

City_____ Zone____ State_____

Individual_____

E-R Center Bids Rejected

All bids for Portland's Exposition-Recreation Center were rejected last month on the basis that they "were not within the scope of available funds." The low bid was $6,233,746; high was $7,140,000. Redesign to bring the building within the required budget range is under way so that new bids can be called in December.

Although the redesign will "not affect seating capacity, parking, spectator comfort, function or beauty," according to Gale Livingston, chairman of the Exposition Recreation Commission, some changes are apparently to be made in the roof's unusual structural design. The original design used a wood truss to span the building's 360 ft width. The laminated wood truss solution was one of 19 proposed solutions studied in connection with the building's design. (Western Section, January 1958, pp. 48-2, 3.)

A statement by the commission chairman said that if the building were being built by a private corporation instead of a municipal body "it is entirely possible that we would have proceeded with the low bid, making the necessary change orders to bring the cost within available funds. As a municipal body guided by the advice of the City Attorney and dedicated to the public interest we have no alternative other than to change certain specifications and submit them for rebid."

Skidmore, Owings and Merrill, Portland, are architects for the center.

Three Los Angeles Firms Get Federal Job

Three firms, working in association, will be architects for the new $32,177,000 Los Angeles Customhouse and Federal Office building. They are Welton Becket & Associates, Albert Martin & Associates and Paul R. Williams & Associates. Working drawings are due to be completed by 1960, according to General Services Administration.

The building will be situated on a six and a half acre site near the Civic Center. Legislation to authorize its construction was first introduced eight years ago.

Lloyd Center Signs to "Whisper"

When Lloyd Center, Portland's huge new shopping center now under construction, opens in 1960 its signs will conform—at least for the most part—to a general limitation in size, type and design, says Alfred Fast of John Graham & Company, architects for the project. Signs that turn, flash or move are taboo, he says; they give too much of a county-fair aspect to the center.

Instead of shouting, the center's signs are due to "whisper": they will be strips around the buildings or across the shop fronts. Instead of competing for size, they will be kept within bounds to play their part in producing a pleasant environment.

The center is designed to provide shopping malls on two levels and will have the largest under-cover parking garage in the country with space for 3500 cars. An additional 7000 spaces will be provided outside. Besides a variety of small shops and a large department store, the center will have a skating rink with a restaurant; planting areas and a centrally located park with—to quote Mr. Fast—an "architectural" lake (a lake which is in the plan but which will depend for its realization on the willingness of the client to provide necessary funds for its development).

Lloyd Center is strategically located on Portland's East side to serve the majority of the city's population.

Calendar of Western Events

- NOVEMBER 6-8: Fall meeting, National Academy of Sciences, University of California, Berkeley
- NOVEMBER 7-9: Annual fall conference, Pacific Arts Association, Northern California Section, Asilomar, Calif.
- NOVEMBER 8-11: Annual convention, National Association of Real Estate Boards, Masonic Temple, San Francisco
- NOVEMBER 13: Regional technical conference, Society of Plastics Engineers, Ambassador Hotel, Los Angeles
- NOVEMBER 15: Pacific Section, Society of Architectural Historians, San Francisco meeting, Society of California Pioneers Building, 456 McAllister Street, San Francisco
- NOVEMBER 30: Closing, Vincent Van Gogh Exhibition, M.H. deYoung Memorial Museum, Golden State Park, San Francisco
- DECEMBER 5-6: Northern California chapter, Associated General Contractors, convention, Sheraton-Palace Hotel, San Francisco
- JANUARY 24-27: Sixth annual meeting, Consulting Engineers Association of California, Mark Thomas Inn, Monterey, Calif.
- FEBRUARY 17-19: Church architecture conference, sponsored by Church Architectural Guild of America and department of church building, National Council of Churches, Statler-Hilton Hotel, Los Angeles

WESTERN SECTION

Index To Advertising

Manufacturers' Pre-Filed Catalogs of the firms listed below are available in the 1958 Sweet's Catalog Files as follows:

a Architectural File (green)
ic Industrial Construction File (blue)
lc Light Construction File (yellow)

	Bayer, A. J. Company	64-21
	Columbia-Geneva Division	64-6-7-13
a	Fiat Metal Mfg. Company	64-23
	Forest Fibre Products Co.	64-18
	Gladding, McBean & Co.	64-11
	Hager, C. & Sons Hinge Mfg. Co.	64-8
	Kaiser Gypsum Co. Inc.	64-17
	Kraftile Company	64-20
	Lighting Dynamics	64-9
	Olympic Stained Products Co.	64-22
	Palos Verdes Stone	64-10
	Porcelain Enamel Publicity Bureau	64-19
a	Robinson Brick and Tile Company	64-16
	Sagar Carroll & Associates	64-5
	Smoot-Holman Company	64-12
a	Soule Steel Company	64-15-16
	United States Pumice Supply Co., Inc.	64-22
	United States Steel	64-6-7-13

Western advertising offices: LOS ANGELES, Bob Wettstein, 672 S. Lafayette Park Pl.; PORTLAND, Bob Wettstein, 921 S. W. Washington St.; SAN FRANCISCO, Bob Wettstein, Howard Bldg., 355 Stockton St.

PLANNING INSTALLATIONS Nick Stivaletta (left) and his brother Mike (standing) plan locations for telephone outlets in a new home with Don Cotter of the telephone company.

"A popular feature that pays off– that's concealed telephone wiring"

—say Mike and Nick Stivaletta, Builders, of Randolph, Mass.

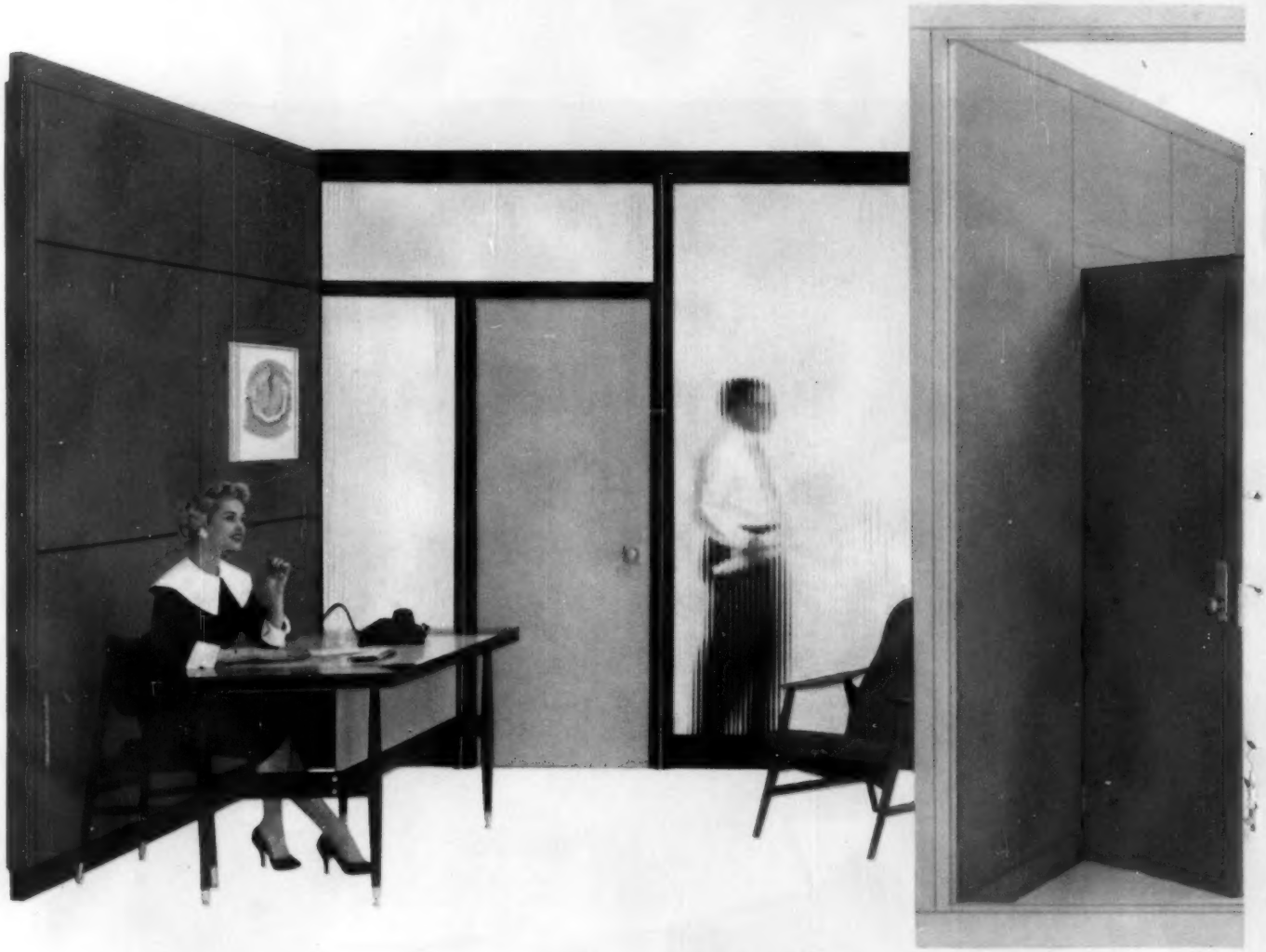
"Concealed telephone wiring is a 'must'," say Mike and Nick Stivaletta. "People know about it and demand it. In our new Deer Park Development, for example, all 250 homes will have it.

"For such a small outlay, it sure pays off. Easy to put in, neat, attractive, it tells our prospects that we're giving them value. We mention in our newspaper advertising that our homes are telephone planned. In today's competitive market we wouldn't offer a home that wasn't."

• • •

Your local Bell Telephone business office will be glad to help you with concealed wiring plans. For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

BELL TELEPHONE SYSTEM



New HAUSERMAN Walls

are low in cost, long on beauty

For office, plant, laboratory, hospital, or school... there's a Movable HAUSERMAN Wall to meet your specific need and budget.

In the business office... new HAUSERMAN "HP" Walls, flush and trim, are attractive in smart colors and are readily movable when space division must be changed. Purchase price, including installation by HAUSERMAN erectors, is amazingly low... minimum maintenance and ready reusability further increase the value of having HAUSERMAN "HP" Walls.

For handsome executive reception rooms, HAUSERMAN HORIZON*, finest of all walls, offers widest freedom of design, material and color choice in a full range of decorator tones and panel finishes.

To solve any space-dividing problem, get the complete story on the full line of HAUSERMAN Walls from your local HAUSERMAN representative. He's listed in the Yellow Pages under PARTITIONS. Or write to address shown below for full-color literature.

*Pat. Pending

a complete line to meet every space division need

THE E. F. HAUSERMAN COMPANY • 7498 Grant Ave., Cleveland 5, Ohio
Hauserman of Canada Ltd. • Mallard Rd., Don Mills, Ontario

MOVABLE

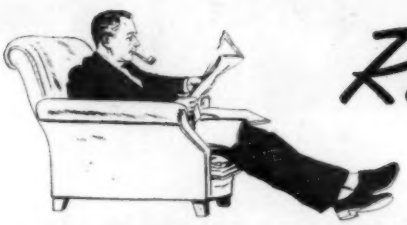
Budget-priced HAUSERMAN Industrial Walls for any space dividing need . . . salvageable and reusable . . . glass and solid panel combinations are available in decorator colors.

Low-cost privacy with HAUSERMAN Divider-Wall, waist-high or head-high, with clear or translucent glass. Space division readily rearranged . . . minimum maintenance cost.

High quality, smart and attractive . . . HAUSERMAN Series CC Walls can be readily relocated for space-division changes. Many colors, finishes and panel combinations.

HAUSERMAN INTERIOR WALLS

Invisible heating units permit the most attractive arrangement of furnishings and space.



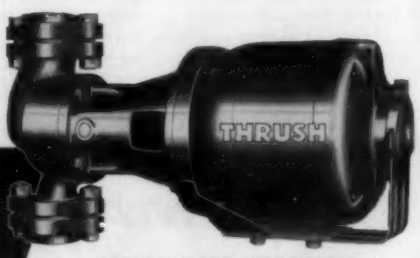
Radiant Hot Water Heat

MAKES THRUSH EQUIPPED HOMES MORE LIVABLE . . . MORE SALABLE . . .

HOMES HEATED with radiant hot water heat are more attractive in appearance and more acceptable to modern home buyers. Thrush Radiant Hot Water Heat is ideal for use with modern invisible heating units, such as radiant panels and radiant baseboards.

It assures constant heating comfort without drafts, with low fuel cost . . . and practically no upkeep cost. Actual experience of home builders proves that this type of heating will attract more buyers and make the sale of homes easier. Thrush Radiant Hot Water Heat means quality, dependability and a lifetime of efficient heating performance.

See our catalog in Sweet's or write Department J-11 for more information.



THRUSH WATER CIRCULATOR

H. A. THRUSH & COMPANY
PERU, INDIANA

"I always specify Hako floor tile"

School Executive: "The trend's towards color. But school floors take a lot of scuffing. And what about cleaning?"

Architect: "In other words. You need good looks. Toughness. Easy cleaning."

School Executive: "Can you get a floor with all three?"

Architect: "Sure. Asphalt or Vinyl-Asbestos tile. Perfect."

School Executive: "I left out economy. Let's put it back in."

Architect: "We'll keep the taxpayers happy, too. It's low in cost . . . made to fit a school budget yet still gives you smart colors and patterns . . . stands up to the pounding of little feet . . . and it's a cinch to keep clean."

School Executive: "I suppose that goes for any tile?"

Architect: "Whoa. I like to be sure. That's why I always specify HAKO. They make both Asphalt and Vinyl-Asbestos tile. Best all-around type of flooring you can use—colorful, durable and low cost!"

HAKO BUILDING PRODUCTS
A DIVISION OF MASTIC TILE CORPORATION OF AMERICA
Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.
Asphalt Tile • Vinyl-Asbestos Tile • Coronet Plastic Wall Tile

HAKO

Hako Building Products
Division of Mastic Tile Corp. of America
Dept. HB-11, P.O. Box 128, Vails Gate, N. Y.

Please send me full details and specification data on Hako Asphalt and Vinyl-Asbestos Tile.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

The Great Southern Shoppers Mart
Columbus, Ohio
C. Melvin Frank, A.I.A. Architect

PATENTED

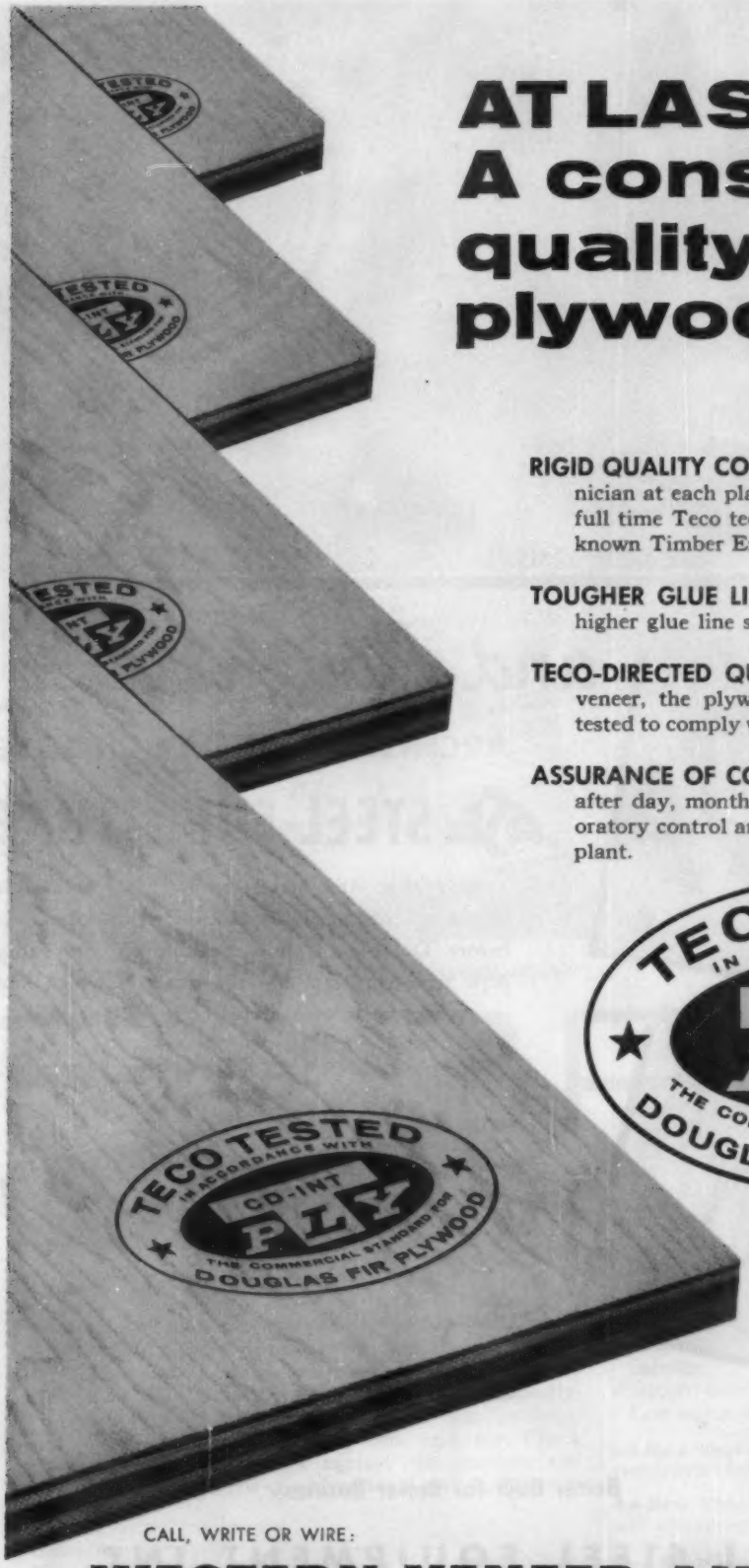
For Structural Strength One Shape Stands Out!

The Macomber V-Section chord in steel structurals has established a new concept in steel framing. Increased load-bearing strength and rigidity gained by cold-rollforming means that Macomber open-web structurals surpass the performance requirements of all national steel framing specifications. Macomber V-Beams, V-Girders and V-Trusses have universal acceptance as the framing members that give you the greatest strength per pound of steel.

Specific bulletins on all Macomber products are available.

MACOMBER

CANTON 1, OHIO



AT LAST... A consistent quality plywood!

RIGID QUALITY CONTROL is assured by a resident technician at each plant using the Teco-Tested mark. This full time Teco technician has been trained by the well known Timber Engineering Company.

TOUGHER GLUE LINE TESTING produces a uniformly higher glue line strength at no extra cost.

TECO-DIRECTED QUALITY CONTROL means that the veneer, the plywood panel and, finally, each lot, is tested to comply with or exceed Commercial Standards.

ASSURANCE OF CONSISTENT QUALITY is yours, day after day, month after month, because of TECO laboratory control and testings right at the manufacturing plant.

TECO TESTED
IN ACCORDANCE WITH
CD-INT
PLY
THE COMMERCIAL STANDARD FOR
DOUGLAS FIR PLYWOOD

QUALITY PLYWOOD TO FILL YOUR NEEDS:

- New X-WP12 Exterior Type
- Interior and Hot Press Exterior
- Plugged and Touch Sanded
- Available in all thicknesses
- Mixed sanded and sheathing for direct car sales
- Firm price quotations

CALL, WRITE OR WIRE:

WESTERN VENEER AND PLYWOOD

LEBANON, OREGON

Again...

and Again...

ARCHITECTS WISELY CHOOSE

ASE STEEL FURNITURE

Today, more ASE Steel Furniture is specified in offices, schools, hospitals and institutions than ever before. Durable...flexible...beautiful...trend-setting ASE Steel Furniture has the qualities which find increasing favor with architect and client alike.

There's an ASE dealer near you.

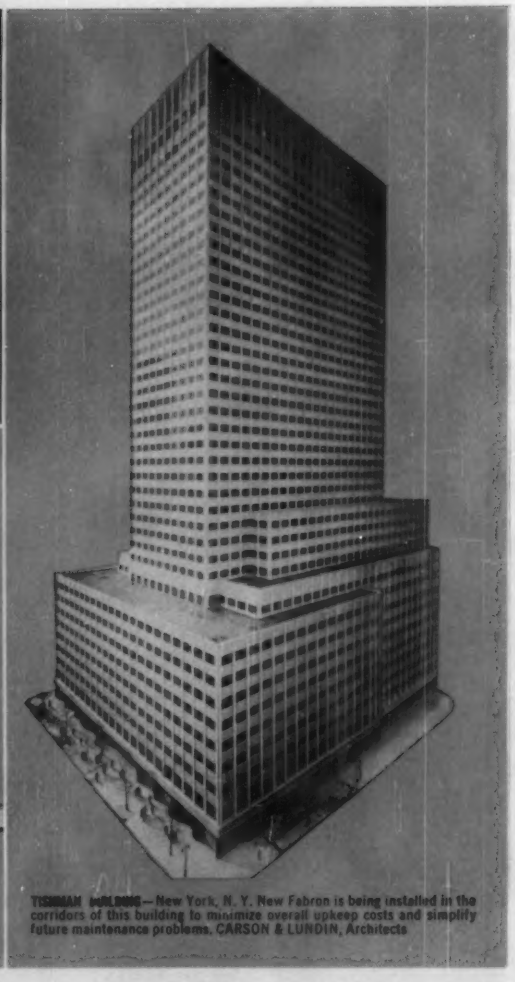
Better Built for Better Business

ALL-STEEL EQUIPMENT INC.

Aurora, Illinois

natural choice for wall treatments

LANCASTER GENERAL HOSPITAL—Lancaster, Pa., Donald C. Smelzer, M.D., Director. Fabron will economically protect and beautify the rooms and corridors of this 676-bed hospital. The Office of JAMES R. EDMUNDS, Jr., Architects



TISHMAN BUILDING—New York, N. Y. New Fabron is being installed in the corridors of this building to minimize overall upkeep costs and simplify future maintenance problems. CARSON & LUNDIN, Architects

pure vinyl, fabric-supported wall coverings

new FABRON®

new PERMON®

Today, more than ever before, where you find walls, you'll find new Fabron and Permon! For important buildings everywhere—whether new, old or in construction—more and more owners, administrators and architects are specifying new Fabron and Permon for dramatic styling, low maintenance, durability, and true long-term economy. Check their outstanding advantages against the obsolete and money-wasting properties of conventional wall treatments:

- Striking decorative beauty
- Glass-like washability
- Unsurpassed colorfastness
- Positive plaster-crack protection
- Safety from fire and toxicity
- Remarkable resistance to abrasion and impact damage
- Record-breaking durability
- Low initial cost and maximum long-term economy

All-New *Vinyl FABRON* with exclusive 3-ply construction*—resists everyday wear and tear.

All-New *Vinyl PERMON* heaviest vinyl made—protects lower wall areas exposed to excess abuse.

Send today for complete information on new Fabron and Permon vinyl wall coverings.

*A Tossony Process

FREDERIC BLANK & COMPANY, INC., 230 Park Ave., New York 17, N. Y., *Established 1913*

Since HOPE'S 1818

WINDOW WALLS

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH

Joseph W. Molitor, Photographer

SCHOOL OF OUR LADY OF PERPETUAL HELP, PELHAM MANOR, NEW YORK

Edward Fleagle, A. I. A., Architect — *Marcello Mezzullo, Inc., General Contractor*

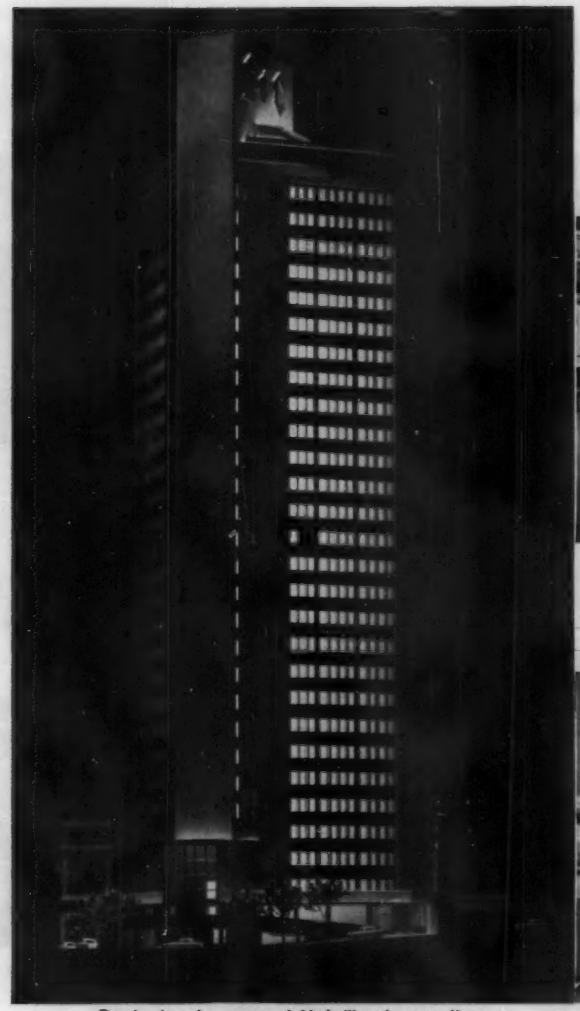
THE WALLS of this fine school building are made with Hope's custom steel Heavy Intermediate Classroom Windows installed in Hope's Pressed Steel Sub-frames with alternating rows of insulated panels and glass. The trim exterior shows good use of the complete freedom of layout offered by Hope's multi-story window-wall construction. Any desired relationship is obtainable between panels and glazed areas, whether fixed or movable. Ventilators, louvers and doors may be located wherever needed.

Hope's window-walls also provide structural advantages that are of great importance to the owner of the building. Your client gains the great benefit of low maintenance cost with permanent weather tightness and positive operation of the movable windows for the full life of the building. There are also construction economies. Components are light in weight in relation to their strength. They are convenient to handle and walls are assembled rapidly at lower labor costs.

Write for Bulletin No. 158

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS



Dominating the center of Nashville, the new limestone, black granite and aluminum Life and Casualty Tower is an architectural masterpiece. Notable design features are aluminum fins, north and east, which create a distinctive appearance and provide shade.

The decoration of the reception area reflects imagination and good taste. Floor tiles are rubber in black and white design. The screen is Eighteenth Century Chinese Carromandel.

Soft, efficient, interior lighting is produced throughout the building by 2,200 Day Bright "Sky Tex" one-piece glass fixtures.

EDWIN A. KEEBLE ASSOCIATES, INC. OF NASHVILLE, TENNESSEE TRIUMPH WITH LIFE AND CASUALTY TOWER

From foundation to illuminated L & C initials, this beautiful Life and Casualty Tower stands as a tribute to the architectural skill of Edwin A. Keeble Associates, Inc.

Pratt & Lambert paints and varnishes were used throughout including *New* Lyt-all Flowing Flat, Lyt-all Stippling Eggshell, Vitralite Enamel and Vapex Flat Wall Finish.

PERSONAL SERVICE BY TRAINED REPRESENTATIVES in the choice of painting specifications and in the development of distinctive color plans is available, upon request and without obligation. Please write: Pratt & Lambert Architectural Service, 3301 38th Ave., Long Island City 1, N. Y.; 326 W. 26th St., Chicago 16, Ill.; 75 Tonawanda St., Buffalo 7, N. Y.; 254 Courtwright St., Fort Erie, Ontario.

CRAFTSMANSHIP IN THE PACKAGE

PRATT & LAMBERT

A continuing series of distinguished schools, office buildings, churches, hospitals and industrial structures using NORTON DOOR CLOSERS

NORTON'S PROVED DEPENDABILITY DICTATED CHOICE OF DOOR CLOSERS

ARCHITECT: HARRY T. MACDONALD, A.I.A.
CONTRACTOR: STIGLBAUER BROTHERS

New Senior High School in Downey, Calif., Has a Norton Door Closer on Every Door

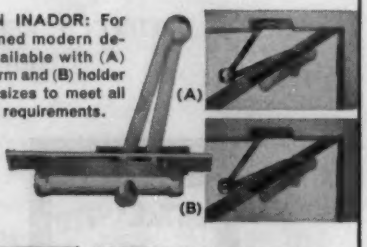
Ruggedness is a prime requisite for door closers in any school attended by over 2,000 students. This need has been satisfied in the distinctive new Senior High School at Downey, Calif. ...and also the new West Junior High School. All doors in both schools are equipped with Norton Door Closers. The choice was influenced by the fact that thousands of Norton Door Closers are still in daily use in some of America's best-known public buildings after serving continuously 30 years and longer. For fully illustrated data on these and other Norton Door Closers, including important new models, consult the current Norton catalog #57. Write for it today.

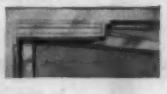
NORTON® DOOR CLOSERS

Dept. AR-118, Berrien Springs, Michigan

Complete Norton Line Meets Every Door Closer Need

NORTON INADOR: For streamlined modern design; available with (A) regular arm and (B) holder arm...4 sizes to meet all standard requirements.



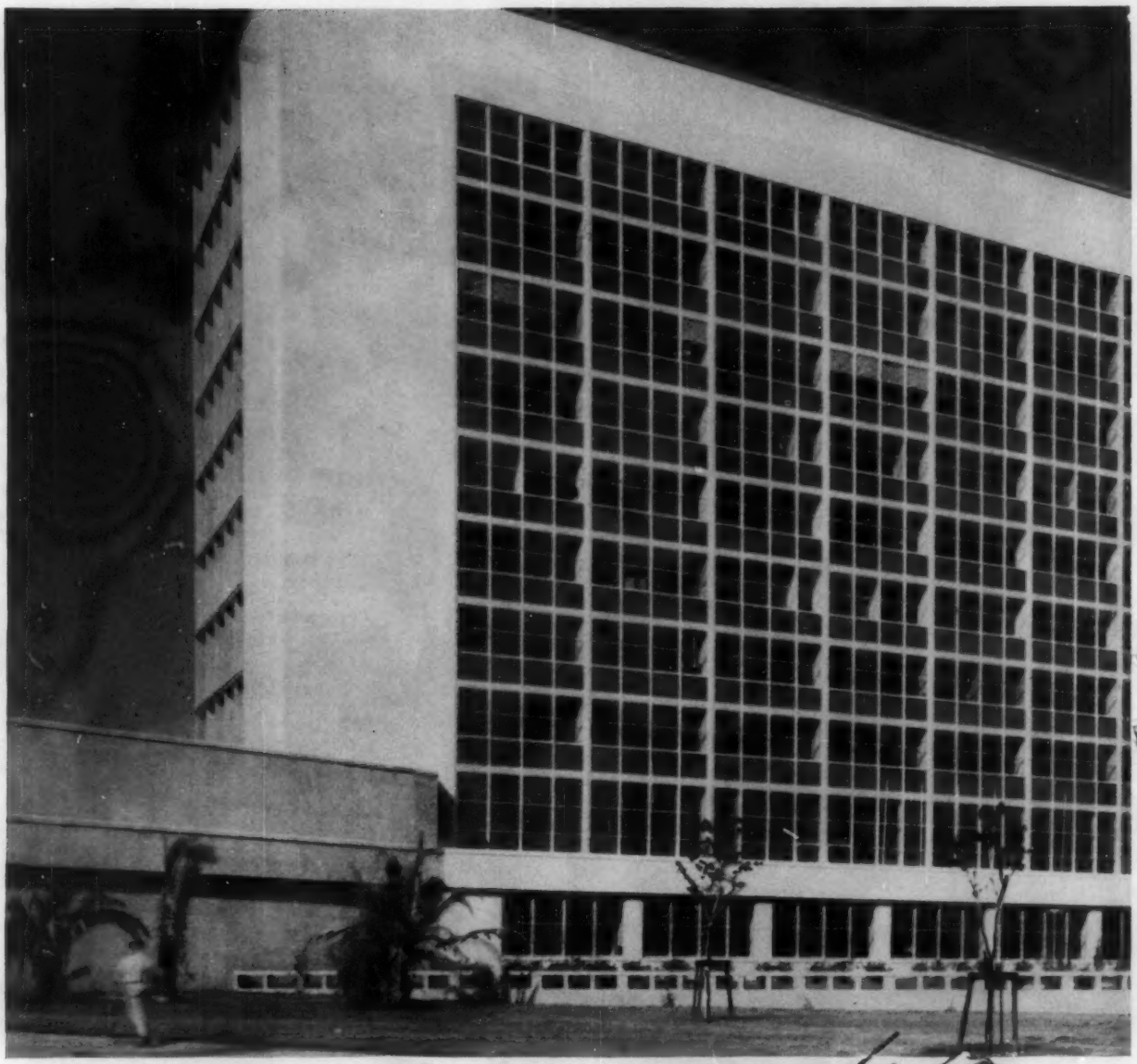


NORTON 750: New corner design with concealed arms, for all types of doors, particularly narrow-rail doors.

NORTON SURFACE-TYPE: For all installations where concealment is not essential.

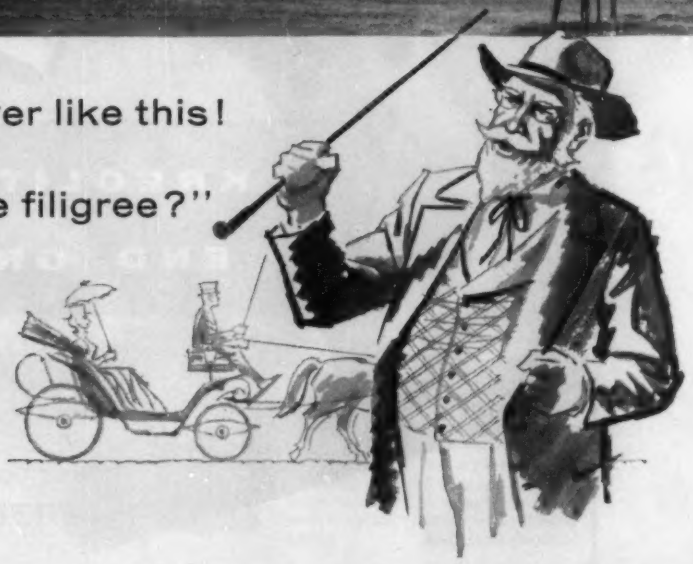
NORTON 703E: Compact surface-mounted type...first closer with extruded aluminum alloy shell.

Hop, Skip and Jump on it!
and Feel the Cushioned Flex of KREOLITE Gym Floors
Here is a floor that welcomes any kind of action.
Because of its high *resiliency*, Kreolite Flexible Strip End Grain Wood Block Floors are actually kinder to the feet by lessening fatigue.
In addition to this highly desirable feature, Kreolite Floors resist wear, stay new longer and require only a minimum of maintenance.
For long lasting floor beauty and *resilience*, get all the facts on Kreolite . . . the better floor for gyms, multi-purpose rooms and school shops. Write today for installation data and specifications.
KREOLITE FLEXIBLE STRIP
END GRAIN FLOORING
THE
JENNISON-WRIGHT
CORPORATION
TOLEDO 9, OHIO



"New Orleans was never like this!

What happened to the filigree?"



Architects: Goldstein, Parham & Labouisse, and Favrot, Reed, Mathes & Bergman, New Orleans, La.

It's still in the French Quarter, Colonel, but up here at City Hall we need a practical form of architecture—practical, but still beautiful. The new City Hall is the first of a proposed five-building civic center—an excellent example of functional modern architecture. It is especially functional in the extensive use of glass for the vision and spandrel areas.

SOLEX®—*Pittsburgh's* heat-absorbing glass—in the windows keeps the interior cooler and more comfortable. And SPANDRELITE®—*Pittsburgh's* glass in color—brings a new-found beauty to the exterior, provides a "glass skin" that is exceptionally strong, durable, and weather and corrosion-resistant.

Another *Pittsburgh* product used in this impressive building is the PITTCOMATIC® automatic door opener. With this hinge, doors open at a feather touch. What's more, the PITTCOMATIC is the easiest device to install and maintain . . . the safest to operate.

In *your* architectural plans, consider Pittsburgh Plate Glass Company products. You'll find them basic in drawing up any building scheme. Our Architectural Representative nearest you will be pleased to assist you in solving any problem confronting you. Call on him. There is no obligation on your part.

PITTSBURGH GLASS

. . . the basic architectural material

75th ANNIVERSARY 1883—1958

SYMBOL OF SERVICE FOR SEVENTY-FIVE YEARS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Bolts join structural members of new bank building in Detroit

Here's the newest of the impressive structures in Detroit's financial district —the 14-story main office building of National Bank of Detroit. Upon completion, the up-to-the-minute structure will contain about 420,000 sq ft of usable floor space. The steel members of its structural framework, weighing approximately 6,000 tons, are connected by more than 102,000 Bethlehem High-Strength Bolts, Nuts, and Washers.

Facade of main office building of National Bank of Detroit will have pleasing shadow effect, resulting from unusual combination of glass, stone, and metal. Architects and Engineers: Albert Kahn Associated Architects and Engineers Inc.; General Builders: Bryant & Detwiler Co.; Steel Fabrication and Erection: Bethlehem Steel Co.

BOLTING IS FAST. Bethlehem High-Strength Bolts are ideal for erecting structural steel because of the speed with which they can be installed. A pneumatic impact wrench is all that's required when tightening the nuts.

BOLTING IS QUIET . . . AND SAFE. High-strength bolting is relatively quiet, making it a highly desirable construction technique in business, hospital, and school areas. Here's another advantage: with the bolts installed cold, there's no possibility of fire, or injury from tossed metal.

Bethlehem High-Strength Bolts, Nuts, and Washers come in a full size range, quenched and tempered to meet the requirements of ASTM Specification A-325. Our nearest sales office will give you full details.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA. On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

EVENGLO®

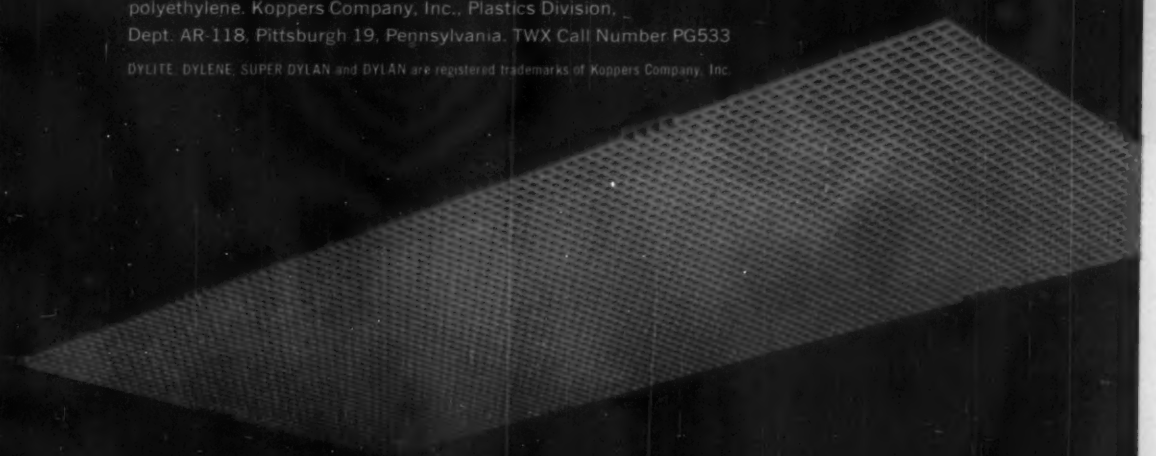
louvers in pastel colors are light-stabilized!

By using **Evenglo** polystyrene, Sinko Manufacturing and Tool Company, Chicago, Illinois, produces a colorful selection of louvers designed to match the decorative scheme of any room. **Evenglo** can be molded or extruded in varying degrees of transmission and hiding power through a complete range of whites and pastels.

Evenglo is gaining widespread acceptance in lighting systems for commercial buildings, schools and business establishments, because of its versatility in both molding and color.

So when you're specifying fixtures for new construction, or remodeling, be sure to specify fixtures made from **Evenglo** polystyrene. Write or wire for information on the properties and characteristics of **Evenglo** polystyrene, and these other fine plastics by Koppers: **Dylite** expandable polystyrene, **Dylene** polystyrene, **Super Dylan** polyethylene and **Dylan** polyethylene. Koppers Company, Inc., Plastics Division, Dept. AR-118, Pittsburgh 19, Pennsylvania. TWX Call Number PG533

DYLITE, DYLENE, SUPER DYLAN and DYLAN are registered trademarks of Koppers Company, Inc.

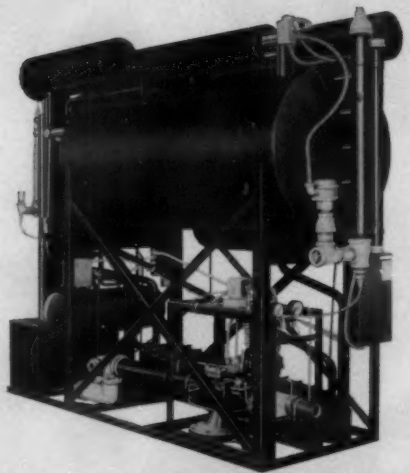


Offices in Principal Cities · In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

KOPPERS PLASTICS

KOPPERS

ARCHITECT: JOHN F. STANN; CONSULTING ENGINEER: J. S. WYBLE; BUILDER: SAM EIG



Check these facts about the 25-ton **Arkla-Servel** Cooler

- A compact unit, easy to install and light enough for rooftop installation.
- Costs are low for installation, operation and maintenance. No specially trained operating or maintenance personnel are required.
- Can be installed singly or in banks to fit any size installation.

"...now we're cooling with GAS!"

Arkla-Servel Gas Air Conditioning keeps customers cool and operating costs down at the Motel Washingtonian

"While we were planning the Motel Washingtonian, we made a complete study of all potential equipment," states Sam Eig, builder and corporation president of this modern motel near Washington, D.C. "We knew we wanted gas for cooking and heating, and after our investigation, we found gas best for *all* operations."

For air conditioning, the specifications called for Arkla-Servel gas absorptive coolers. "With our Arkla-Servel units, we have no maintenance problems," adds Mr. McKeever and Mr. Eig. "And we were able to tie them into our heating system without worrying about special housing, vibration, or noise. Our one central system cools in summer, heats in winter to provide us with a quiet, year-round economical operation."

With the new Arkla-Servel gas absorptive cooler, your clients get extra—even exclusive—advantages that only a gas cooling system gives.

- High efficiency at all times—even during the light loads.
- Constant temperature control.
- Instant automatic adjustment to match actual cooling requirements.
- Dependability of fuel service at all times.

Gas absorptive cooling can put your commercial and industrial clients' heating plant on a year-round paying basis, too. For specific information, take advantage of the consulting services provided by your gas company. They have trained specialists who have been working with architects and engineers for years. Check the facts about gas and you'll see—modern gas air conditioning out-performs all other fuels. *American Gas Association.*

Lobby of the Fontainebleau Hotel • Architect: Maurice Lapidus, AIA, Miami Beach, Fla.

Terrazzo *takes* traffic...stops it too

Neither footsteps nor furniture scrapes faze the beauty of timeless Terrazzo.
Create any design your imagination dictates. Versatile Terrazzo translates
it into a virtually indestructible traffic-stopper
—marble hard and concrete durable.
Terrazzo is easy to walk on and less slippery than waxed floors.
Its smooth jointless surface cleans readily, requires no refinishing,
no painting, no costly repairs.
With Terrazzo, you can give your imagination free rein. It's available
for walls, stairs, and wainscots in an infinite number of colors,
in any design you want. For detailed information,
write the Association in Washington, D. C.
AIA Kit sent upon request. Catalogued in Sweet's.

Member Producers' Council

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION • 404 Sheraton Building, 711 14th St., N.W., Washington 5, D. C.

11 MILES OF DRAFTITE

weatherstrip this building like a cocoon

Kansas State Office Building, Topeka, Kansas. John A. Brown, State Architect (at time building was designed). Windows, 1300 series by Cupples Products Corporation.

1,998 WINDOWS face the weather in this dramatically modern Kansas State Office Building at Topeka . . . and every one of them keeps the weather out—absolutely!

How? These top-hung, inswinging aluminum windows by Cupples are glazed with insulating glass and double weatherstripped with wool-pile DrafTite* (Weatherstrip A-67 available in galvanized steel, aluminum and stainless steel cores). The result is better insulation combined with easier window operation.

"DrafTite has proved itself to us completely during the year we've been in this new building," says Paul F. Clark, Secretary-Manager, State Office Building Commission.

Let DrafTite prove itself to *you*. Call on our engineering facilities or send for our catalog illustrating DrafTite standard sizes and shapes for every type of window and door.

*Trademark

The Standard Products Company

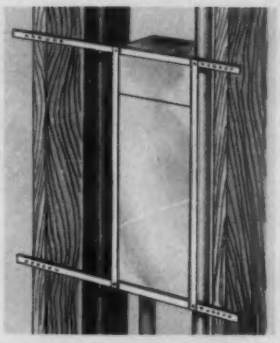
BUILDING PRODUCTS DIV. 316 FISHER BLDG., DETROIT 3, MICH.

Plants at Lexington, Kentucky and Fullerton, California.
In Canada . . . Standard Products (Canada) Ltd. Box 427, Windsor, Ont.

BOLD NEW CRANE

New WALSAN off-the-floor residential closet—with a concealed tank that fits into 2 x 6″ studding

Flushing handle right on the bowl. *No separate wall opening needed.*



Tank fits between 24″ studs. *Only 8½″ wide—plenty of room for stack pipe, too!*

Access panel snaps into place. *Can be decorated to match walls.*

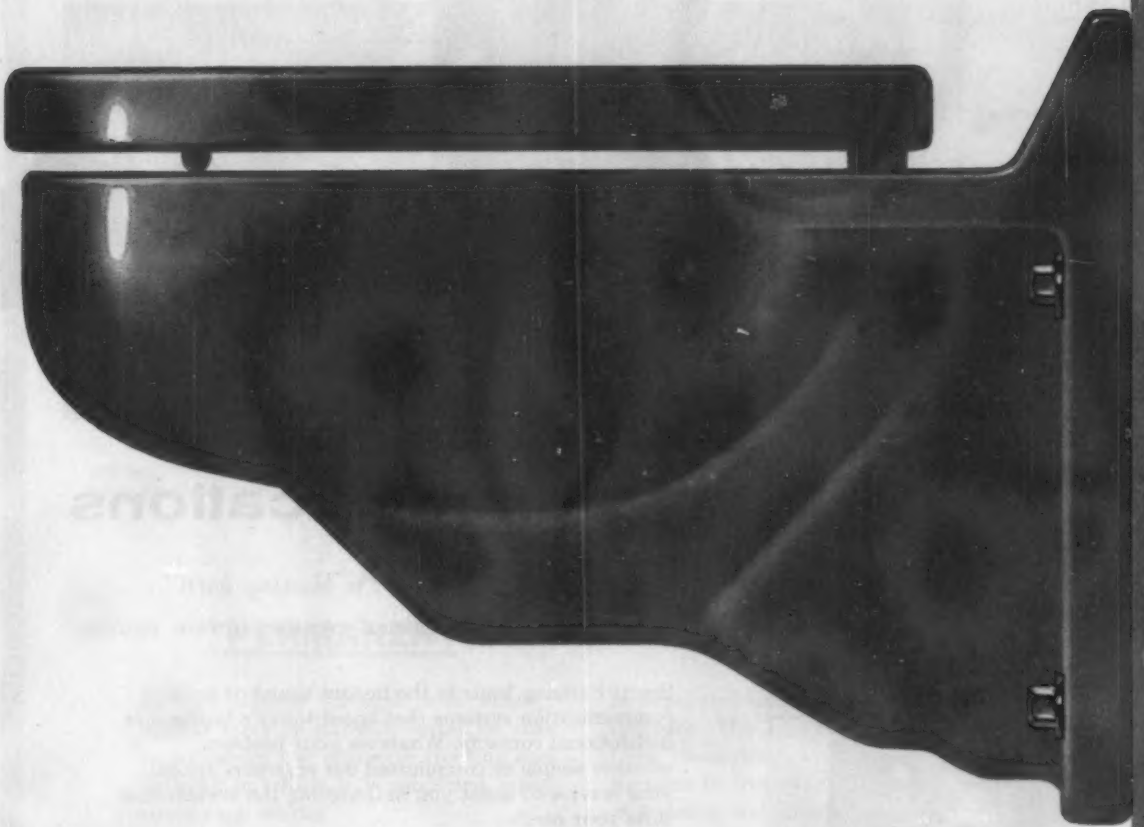
This smartly styled closet gives you new freedom in bathroom design—and offers many advantages to your client.

For example, this handsome Henry Dreyfuss design saves floor space. Takes up to 6″ less space than an exposed tank closet. Fits easily in 2 x 6″ studding. It's only 22″ from wall to front of bowl. The tank can be installed with access panel on either side of wall. And the Walsan also features Crane's new, positive action flapper valve.

Cleaning is a breeze! The closet bowl and the floor beneath it can be cleaned in a few seconds. And no special cutting or fitting is necessary if a wall-to-wall rug is desired by the homeowner.

Available in new Desert Turquoise. The new vitreous china Walsan (and all Crane fixtures) now comes in this bold color accent for bathrooms. There are six other Crane colors and white, too. Ask your Crane Architects' Representative for a showing now.

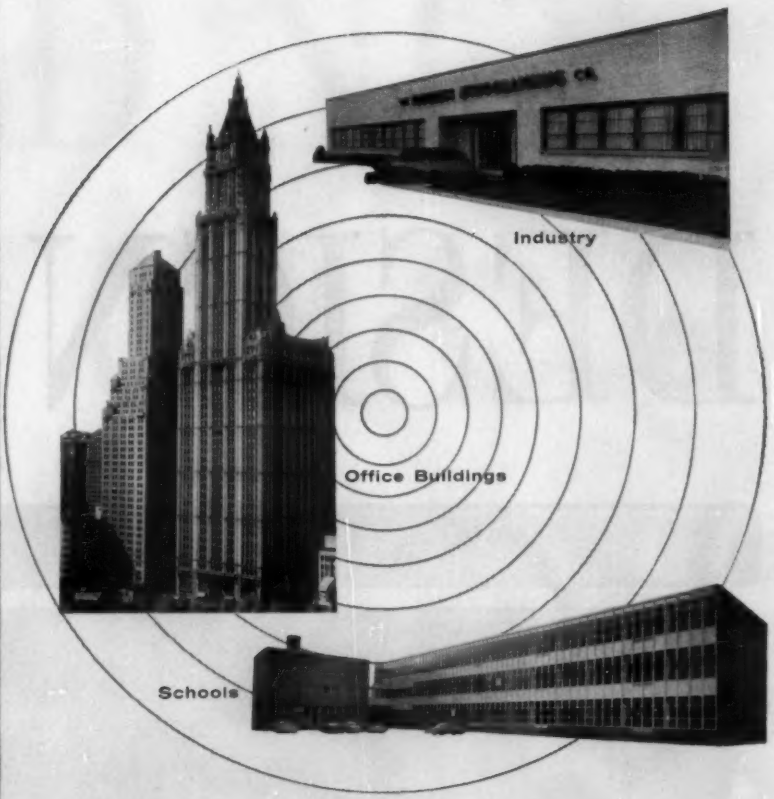
DESIGN



CRANE

THE PREFERRED PLUMBING

CRANE CO. 836 S. Michigan Ave., Chicago 5, Illinois VALVES • FITTINGS • PIPE • PLUMBING • KITCHENS • HEATING • AIR CONDITIONING



Our business is communications

. . . a gentle chime . . . a blasting horn . . .
or a complete audio-visual communication system

Sperti Faraday leads in the instant sound or sight communication systems that speed today's business or institutional contacts. Whatever your problem, whether simple or complicated our engineers are at your service to assist you in designing the system that suits your needs.

This service is available to users without obligation. Simply call your nearest Sperti Faraday representative or write to Sperti Faraday, Inc., Adrian, Michigan. *In Canada,* write Sperti Faraday, Ltd., Montreal.

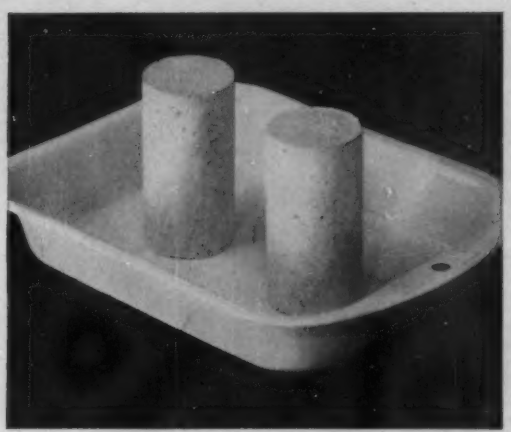
SINCE 1875 DESIGNERS AND PRODUCERS OF VISUAL AND AUDIBLE SIGNALS

Adrian, Michigan

Sperti Faraday Inc.

Specialists in: FIRE ALARM SYSTEMS • ELECTRICAL CLOCK SYSTEMS • HOSPITAL PATIENT OBSERVATION • CLOSED CIRCUIT TV • AUDIBLE SIGNALS • ANNUNCIATORS • CODED PAGING SYSTEM • SYNCHRONOUS CLOCKS • TRANSFORMERS • CONTACT DEVICES

BRIXMENT MORTAR
Is More Durable



To compare the durability of Brixment mortar and ordinary cement-and-lime mortar, make a cylinder of each, let them "cure" for a month, then freeze and

thaw them for forty or fifty times, with a little water in the pan (the freezing unit of your electric refrigerator will do). See the difference with Brixment mortar!

—AND DURABILITY MEANS
PERMANENT STRENGTH AND BEAUTY

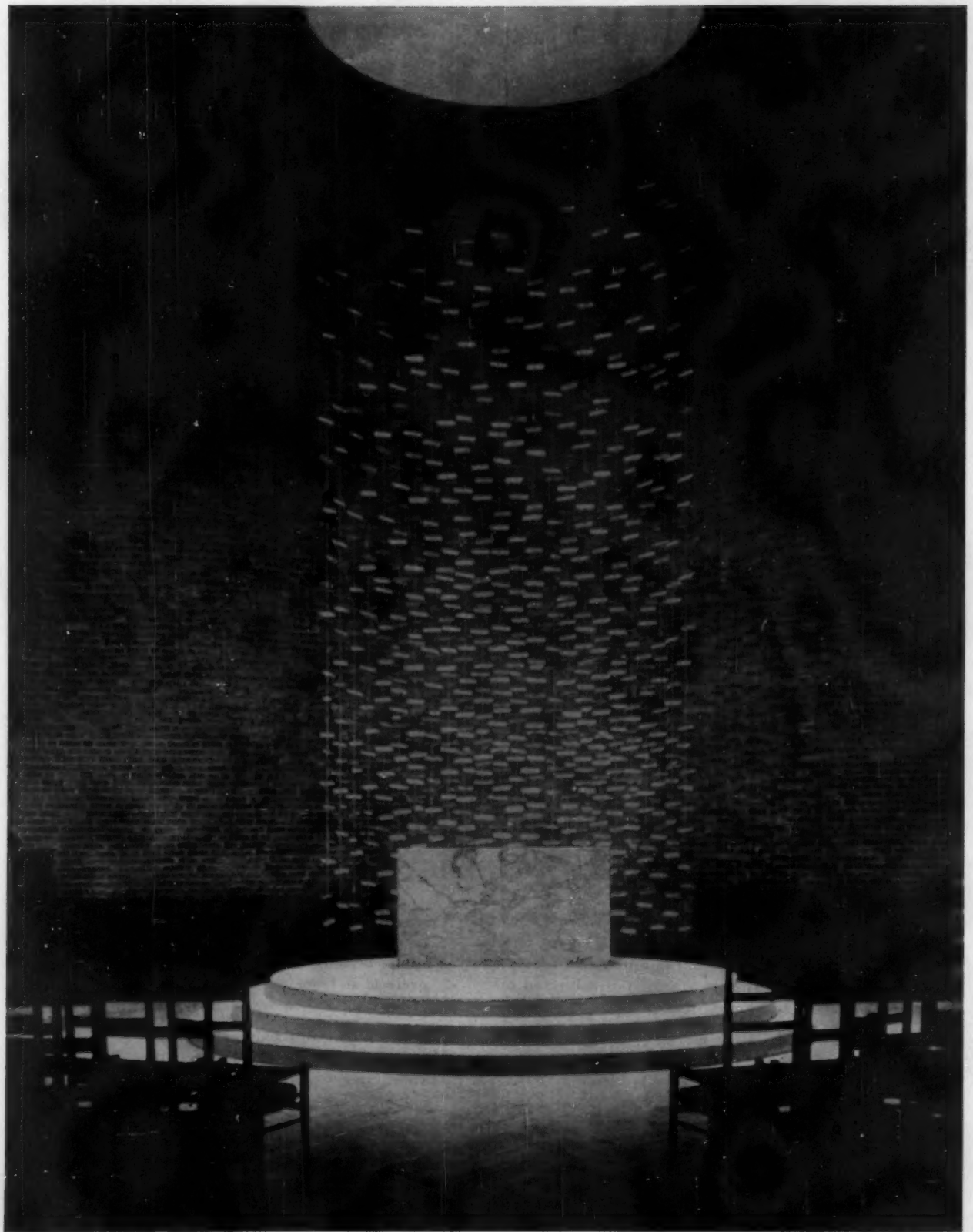
For permanent strength and beauty, mortar must be *durable*—must be able to withstand the alternate freezing and thawing to which it is subjected many times each winter.

Brixment mortar *is more durable.* This greater durability is due partly to the strength and soundness of Brixment mortar, and partly to the fact that an air-entraining water-repelling agent is incorporated into Brixment during manufacture. This helps prevent the mortar from becoming saturated — therefore protects it from the destructive action of freezing and thawing.

Walls built with Brixment mortar therefore *retain* their original strength and appearance — even parapet walls and chimneys, where exposure is particularly severe.

LOUISVILLE CEMENT COMPANY, LOUISVILLE 2, KENTUCKY

Cement Manufacturers Since 1830



This unique design of a delicate brass and bronze screen behind the altar of Kresge Chapel at Massachusetts Institute of Technology in Cambridge, Massachusetts, is an excellent example of welded sculpture. Harry Bertoia, Sculptor, Bally, Pennsylvania, Eero Saarinen, Architect, Bloomfield Hills, Michigan.

Design possibilities unlimited...

WITH ANACONDA ARCHITECTURAL METALS

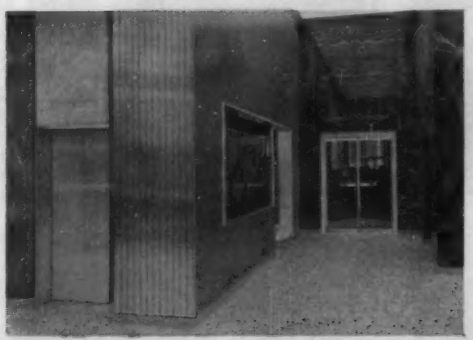
The variety of texture, form, and warm, rich color available to translate architectural concepts into reality is almost infinite with Anaconda Architectural Metals. They are obedient in the hands of the artist and fine craftsman. There are few limitations on what can be accomplished through the use of these metals in rolled, drawn, and extruded forms.

As a leader and pioneer in producing extrusions and other forms of copper alloys for architectural applications, The American Brass Company has the experience to help you achieve outstanding designs in Copper, Red Brass, Architectural Bronze, Yellow Brass, and Nickel Silver. For further information, write: Architectural Service, The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Limited, New Toronto, Ont.

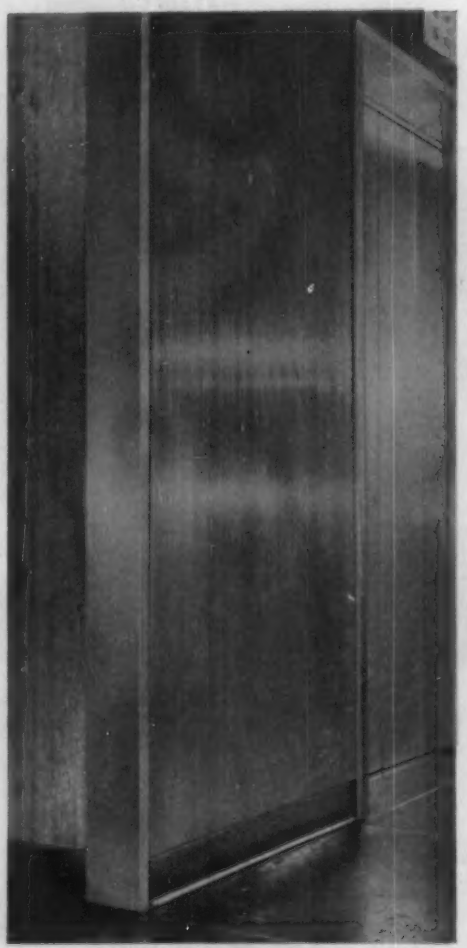
ANACONDA®

ARCHITECTURAL METALS

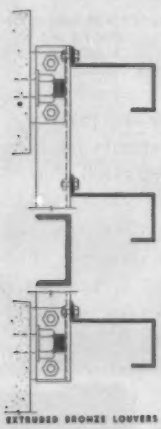
Made by The American Brass Company



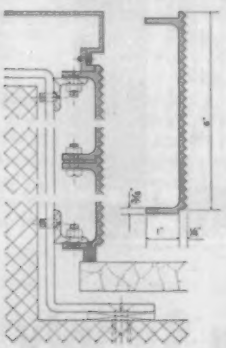
Bronze sheets and extrusions were used extensively in remodeling the entrances and lobby of an office building. Interlocking, channel-shaped extrusions, detailed at right, formed trim, modern floor-to-ceiling panels. Architects: Thalheimer & Weitz, Philadelphia. Fabricator: John G. Leise Metal Works, Philadelphia.



Architects Carson & Lundin, New York City, obtained an extremely interesting wall treatment in the lobby of an office building through the use of striated architectural bronze extrusions, detailed below. Fabricator: C. E. Halback & Co., Brooklyn, N. Y.

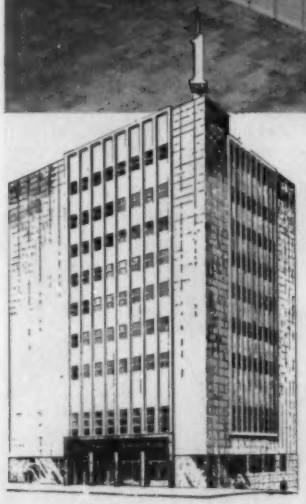


The decorative and functional louvers covering the second floor of this modern structure are extrusions of architectural bronze (see detail at left). The decorative tinted glass panel is framed with Anaconda Red Brass rectangular tube. Architects: Albert C. Martin & Associates, Los Angeles. Fabricator: A. J. Bayer Company, Los Angeles.



functional beauty and "linen" luxury with

Continuous Cotton Towels



← New First American National Bank Building, Duluth, Minn. Architect Thomas J. Shefchik, A.I.A., Duluth. Contractor: Fowler-Veranth Construction Company and Klippen-Holm Company, Duluth.

↑ Recessed continuous-towel cabinets with base storage units. End clutter of waste receptacles. Integrate with the modern design of the wash room. (This installation serviced by: American Linen Supply Company, Duluth.)

You provide the finest in hand drying facilities AND MORE when you specify continuous towel cabinets.

Low cost installation and service by a linen supplier . . . Reduced maintenance and janitorial costs . . . Elimination of litter, storage and disposal problems . . . Limits fire hazard and plumbing repairs.

Add to this, the fact that you do not obligate the owner to any particular service, *even* when you specify recessed cabinets like the ones pictured above. (Recesses are designed to accept any of a wide variety of cabinets.)

So, why not make sure your clients get the best? Specify the luxury and quality of cotton toweling . . . include continuous towel cabinets in your design.

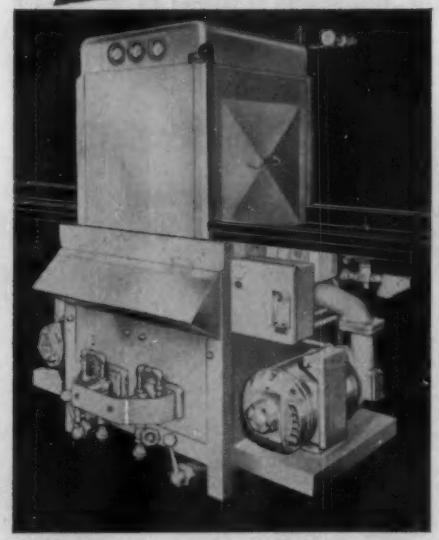
✶ Send for this free Planning-for-Cloth kit

*Illustrated, includes specifications for recessed unit and continuous cloth towel cabinets. **Write**—to Linen Supply Association on your letterhead.*

Linen Supply Association of America
and National Cotton Council • 22 West Monroe Street, Chicago, Ill.

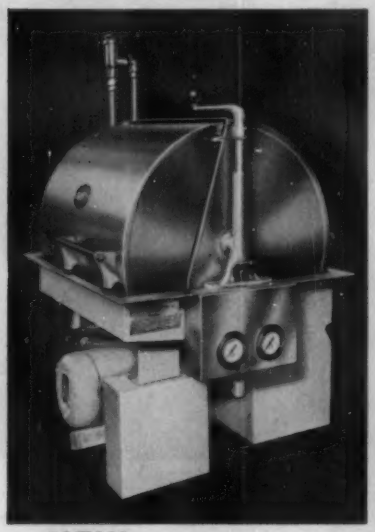
NEW DISHWASHER DEVELOPMENTS FROM HOBART

Space... speed... savings... sanitation. These are the areas where Hobart research is constantly improving the performance of the industry's most complete line of quality dishwashing machines. Here are the latest of these developments—each designed to make a specific dishwashing operation more efficient for your commercial kitchen layouts.



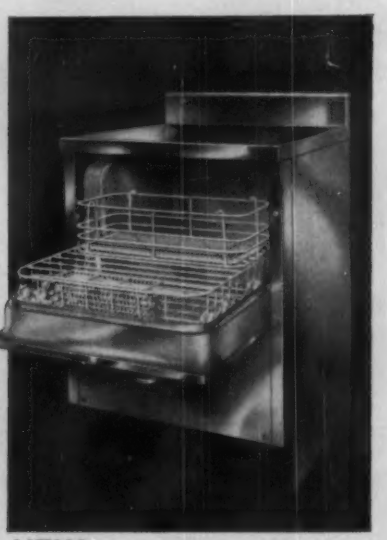
NEW two-tank machine in space of one-tank type

Another industry-*first* by Hobart. Now you can have all the improved sanitation and efficiency of power wash, separate power rinse in a machine with the same between-tables dimensions as a single-tank unit. In this minimum space, unique Hobart design of the new AM-77 effectively separates wash and rinse streams—each powered by a separate Hobart-built motor and pump. Final fresh-water rinse employs famous Hobart revolving-arm feature.



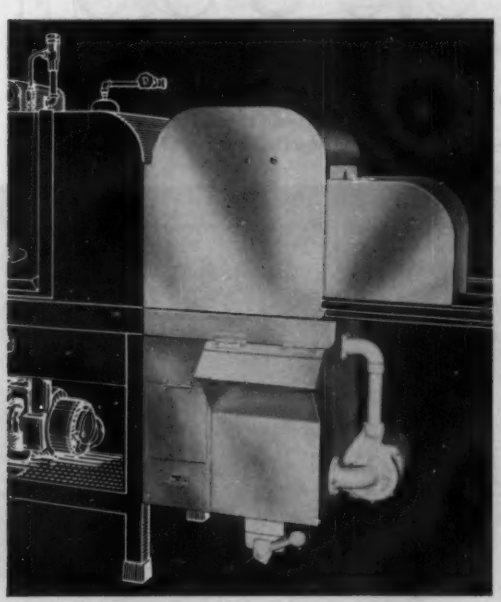
NEW timed countertop dishwasher

A favorite straight-line machine for smaller operations, the SM series of machines now offers improved automatic-timed control for power wash and rinse cycles... is more compact, simplified. Single selector switch for timed, automatic or off positions. "On-off" pilot light indicates machine operation. Another important feature: prolonged rinse for glasses is always available.



NEW popular machines now stainless steel... inside and out

The exclusive Hobart undercounter or free-standing dishwasher now features all interior and exterior surfaces of durable, easily cleaned stainless steel. Ideal for convenient yet out-of-the-way installation in bars, drugstores, snack bars, diet kitchens, rest homes and as a glasswasher unit in higher volume kitchens. Capacity, 600 glasses an hour.



NEW compact power scrapper... saves water

This newest addition gives Hobart the most complete scrapper line. The Model RS gives *power* scrapping advantages in the space of 22 inches. By using overflow rinse water from the dishwasher, the Model RS saves water and reduces costs. Other new features: splash shields and front-removable scrap trays.

It is good insurance for you to specify machines that can be depended upon to guarantee the efficiency of the kitchens you design. As an architect you'll readily appreciate the performance and dependability that are synonymous with kitchen machines bearing the Hobart name. You'll appreciate the flexibility of choice offered by the complete line of Hobart equipment.

Check Sweet's Architectural File for complete specifications on all Hobart kitchen and dishwashing machines. Or send in the coupon.

Hobart

Hobart machines

A complete line by the World's Oldest and Largest Manufacturer of Food Store, Kitchen, Bakery and Dishwashing Machines

The Hobart Manufacturing Co., Dept. H. R.
Troy, Ohio

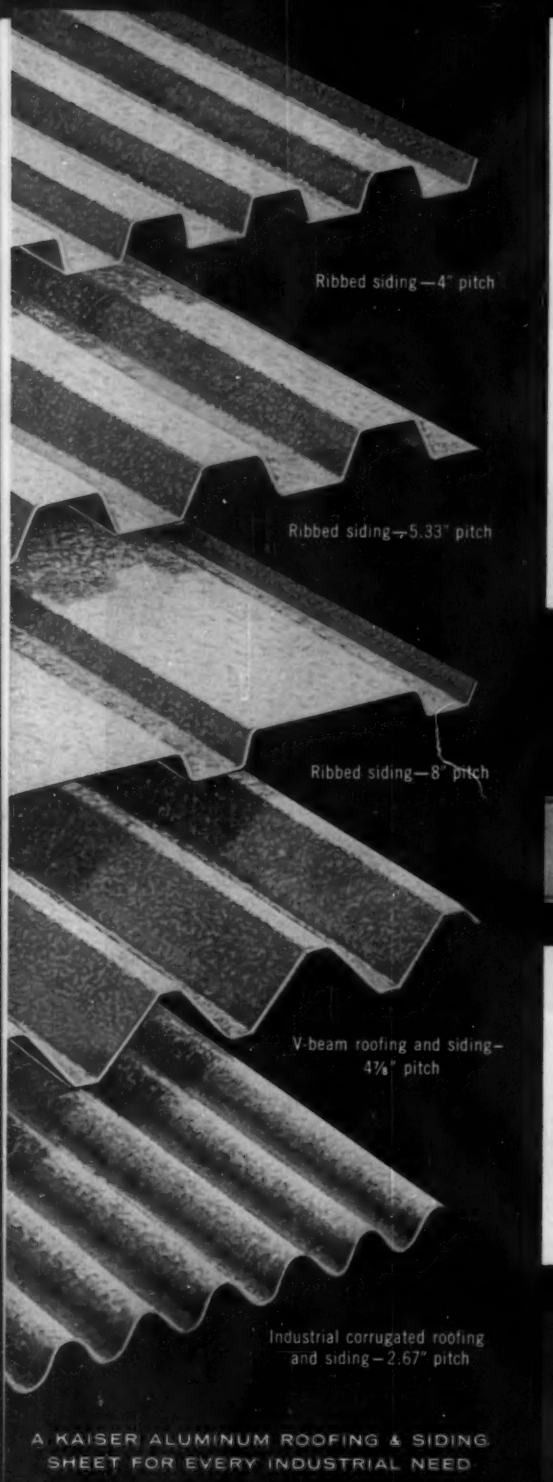
☐ Please send information on dishwashers.
☐ Please send information on other kitchen machines.

Name of Firm.....

My Name.....

Address.....

City.....*Zone*.....*State*.....



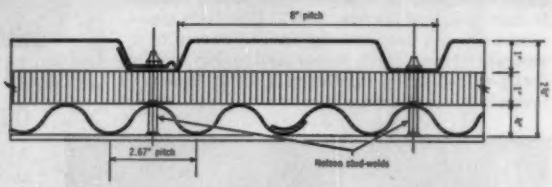
A KAISER ALUMINUM ROOFING & SIDING
SHEET FOR EVERY INDUSTRIAL NEED

FORM, FUNCTION AND

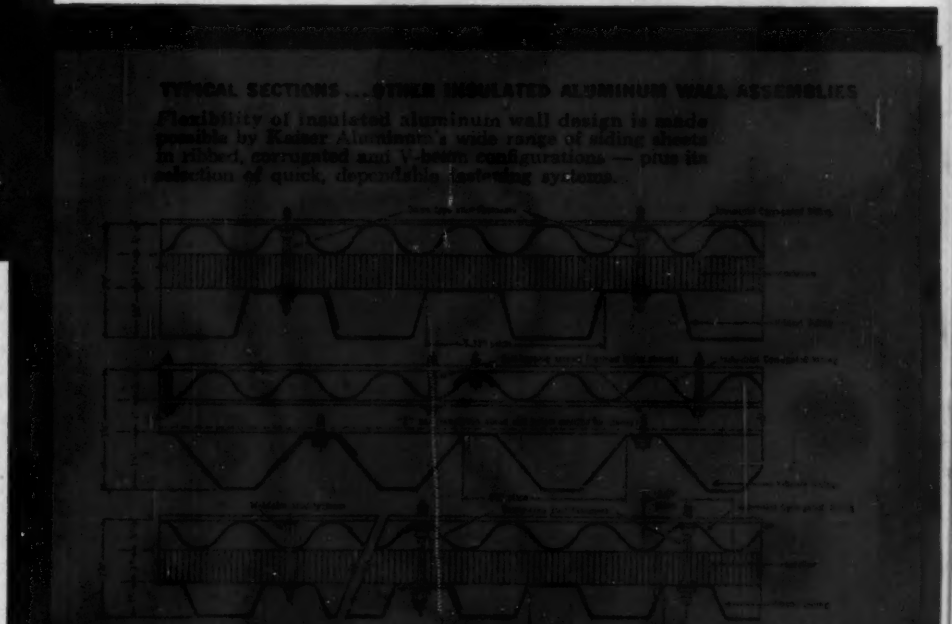
EXAMPLE: LOW-COST INSULATED

The Standard Register Co., Manufacturing Plant, York, Pa.
Engineers & Designers: Noonan Engineering Corp.
General Contractor: R. S. Noonan, Inc.
Insulated Aluminum Wall Sub-Contractor:
Carew Steel Company

TYPICAL SECTION—
STANDARD REGISTER
WALL ASSEMBLY



Outer skin: 8" pitch ribbed siding
Inner skin: 2.67" pitch industrial corrugated siding
Fastening system: Nelson Set-Lock studs



These roofing and siding sheets are available in a selection of thicknesses, finishes, widths, lengths. Flashing sheet, pre-formed flashing, closure strips and other accessories also available. For full information, see Sweet's 1958 Architectural File 8b/Ka or Industrial Construction File 4b/Ka. Complete specifications provided on request.

FLEXIBILITY–CONCEIVED IN ALUMINUM!

ALUMINUM WALLS FOR NEW STANDARD REGISTER PLANT

Installed at a labor and materials cost of $1.50 per square foot, Standard Register's new insulated aluminum sandwich walls were quickly fabricated *at the site* from a layer of 1"-thick rigid glass fiber insulation —flanked by rugged sheets of lightweight Kaiser Aluminum ribbed and industrial corrugated siding.

Extra Economies

Their *extreme light weight*, from 1 to 1.5 pounds per square foot, reduces dead load—effecting many savings throughout the building.

Their *minimum thickness*, as little as 2¾" overall, extends usable floor space. And their *high insulation value* (U Factor of 0.16 with 1" thick glass fiber insulation) by lessening the load on heating and air conditioning equipment, promises reduced operating costs for the life of the structure.

Minimum Maintenance

In addition, because the siding sheets for these sandwich walls are formed of a special clad Kaiser Aluminum alloy, they provide *extra* resistance to corrosion — will keep their good looks for years with little maintenance, and without the need of paint.

Reliable counsel on insulated aluminum walls is available from a qualified Architect's Service representative through the Kaiser Aluminum sales office nearest you. Consult the yellow pages of your telephone directory; or, write for catalog: Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Avenue, Chicago 11, Illinois.

KAISER ALUMINUM

THE BRIGHT STAR OF METALS

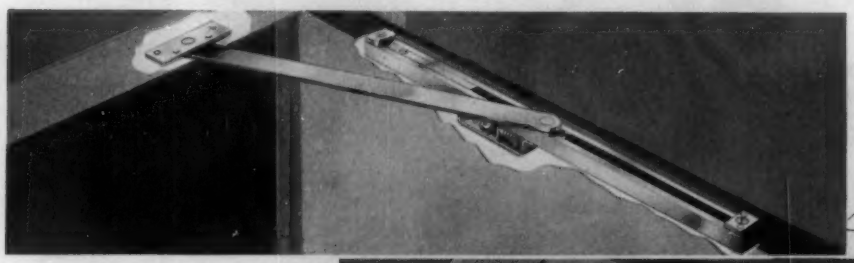
See "MAVERICK" Sunday evenings, ABC-TV Network. Consult your local TV listing.

GLYNN·JOHNSON

the complete line of OVERHEAD DOOR HOLDERS

*overhead means out-of-the-way...

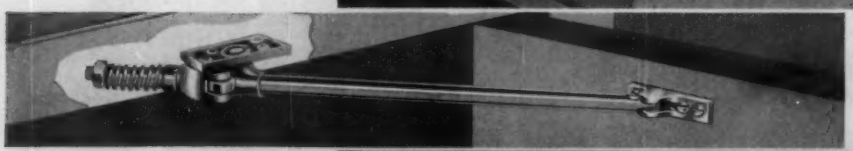
no stumbling hazards—no interference with cleaning



▲GJ 100 concealed (non-handed) GJ 90▶ surface type (handed) for single and double acting doors. The finest in appearance and long, trouble-free wear.

◀GJ ARISTOCRAT (non-handed) for single acting doors. Ruggedly built for hard, practical usage.

GJ 80▶ (handed) for single acting doors. For moderate cost installations.



◀ GJ 70 (non-handed) for single acting doors. Inexpensive for low-cost installations.

GJ 300 and GJ 500 series▶ (non-handed) concealed for single and double acting interior doors. Surface type for single acting doors. Spring cushion types and friction holder type.

CUSHION THE STOP... silently absorbing the shock of violent openings.

HOLD THE DOOR... hold-open engages silently... holds firmly... releases easily.

"Life of the building" GJ Overhead Door Holders are made of highest tensile strength alloys requiring minimum maintenance or replacements. They have built-in shock absorbers to cushion the stop and are made in various sizes for any width door.

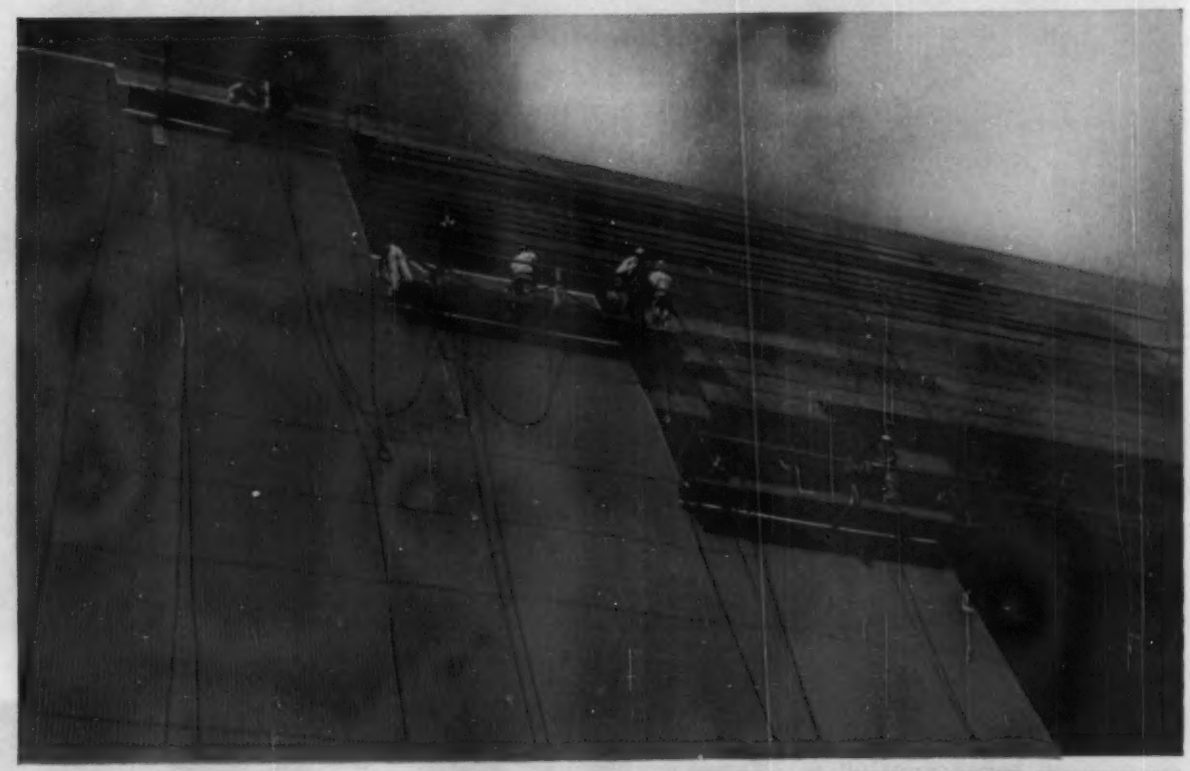
Write for complete details and templates.

GLYNN·JOHNSON CORP.

4422 no. ravenswood ave. • chicago 40, ill.

U.S. Navy Solves Costly Maintenance Problem with Alodized Aluminum Roofs

Installs more than 600,000 lb. of ACP ALODINE treated Kaiser Aluminum corrugated roofing and flashing sheet on roofs of two big humpbacked hangars at Moffett Field



Engineering study at Lakehurst recommended industrial corrugated aluminum roofing for three reasons: it is comparatively inexpensive and provides a durable and permanent-type roofing; it requires lowest expenditure for maintenance; it can usually be installed without changes in the existing structural framework.

At Moffett Field, the Alodized Kaiser Aluminum industrial corrugated aluminum sheeting was attached to the asphalt covered wood sheathing of the hangars. It was applied by Dale Benz, Inc., under the supervision of the Navy's Bureau of Yards and Docks and Leo W. Ruth, consulting engineer and general partner of Water, Ruth and Going, with the technical assistance of Kaiser Aluminum & Chemical Corporation engineers.

The ACP ALODINE chemical conversion coating on the aluminum sheeting was recommended for the Moffett Field installation because it increased the already high corrosion resistance of the metal and because its green color materially reduced the reflectivity of the stucco embossed corrugated Alclad alloy aluminum.

Complete information about ACP ALODINE is available upon request. Write us at Ambler.

MORE THAN 600,000 lb. of industrial corrugated aluminum sheet was used to roof two huge hangars at Moffett Field. All were treated with ACP ALODINE.

★ALODINE is a registered trademark of Amchem Products, Inc.

Amchem Products, Inc. Ambler 22, Pa.

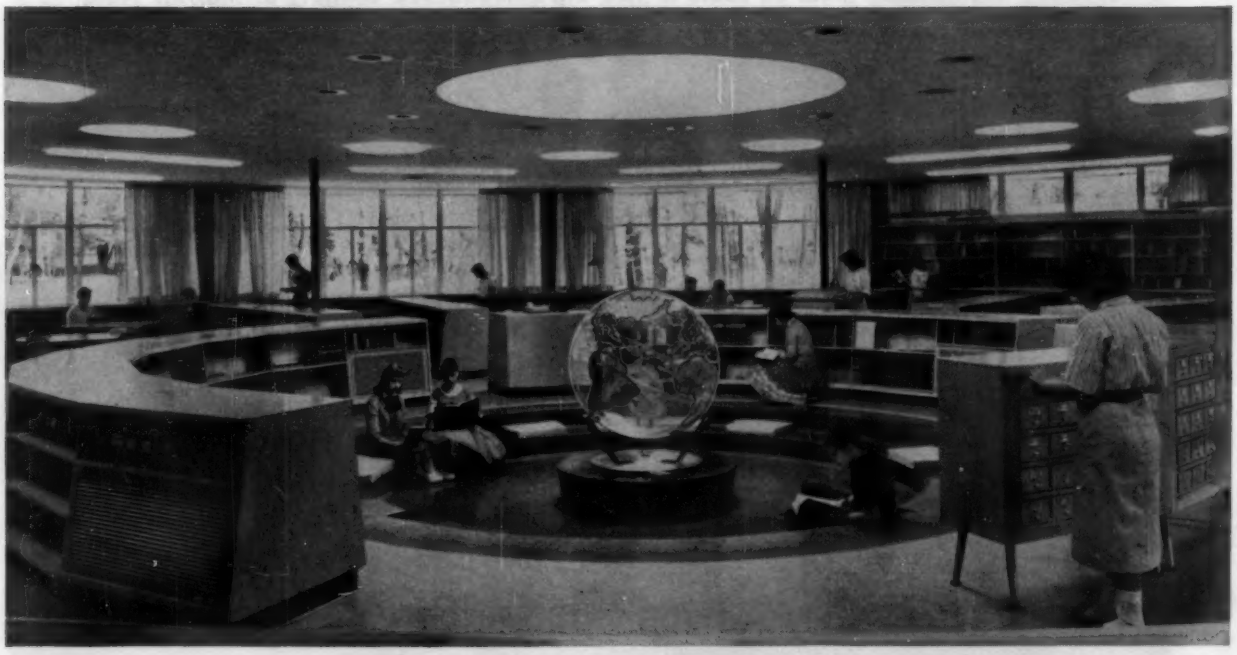
Formerly AMERICAN CHEMICAL PAINT COMPANY

CHEMICALS ACP PROCESSES

DETROIT, MICH. • ST. JOSEPH, MO.
NILES, CALIF. • WINDSOR, ONT.

New Chemical Horizons for Industry and Agriculture

Heating and year-round air conditioning in

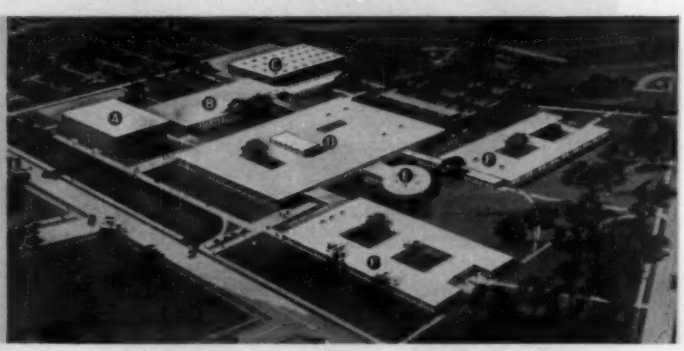


Air conditioned Library, round Building E, shown below.

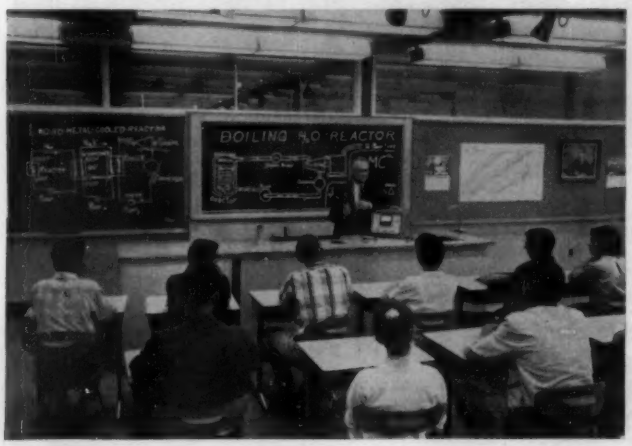
Linton Comprehensive High School
SCHENECTADY, N. Y.

Building A, is air conditioned Auditorium with choral, band and orchestra rooms; B) Cafeteria and multipurpose area; C) Gymnasiums, 3 large, 2 small; D) Core-Tech building with shops, also air conditioned administrative offices, Science, Arts, Family Living and Commerce departments; E) Air Conditioned Library; F) Academic classrooms.

Planned enrollment: 1800. Grades housed: 10th, 11th and 12th. Area 258,157 sq. ft. Construction Cost: $4,328,130.



Schenectady (home of General Electric Co. a pioneer in nuclear power plants) is justly proud of LINTON'S excellent science department. (d-3)



new LINTON HIGH SCHOOL regulated by

POWERS

Pneumatic system of Temperature Control

Architects: PERKINS & WILL
Chicago and White Plains, N. Y.

Associate Architects: RYDER & LINK
Schenectady, N. Y.

Mechanical Engineer:
E. R. GRITSCHKE & ASSOC., INC.
Chicago, Ill.

Heating and Air Cond. Contractor:
TOUGHER HEATING & PLBG. CO.
Albany, N. Y.

"Plan a School that will still be functional in the year 2000"

. . . that was the challenge faced by the educational, architectural and engineering planners of Schenectady's much discussed Linton High School. One of the important innovations here is the year-round air conditioning in the Core-Tech building D, shown on opposite page, also the Auditiorium A, and the round Library building E.

Proper thermal environment is a valuable aid to effective teaching and learning. The flexibility of the Powers temperature control system installed at LINTON meets the demands of varied types of activity and occupancy in all seven buildings.

Air Conditioning, heating and ventilating systems are regulated from Powers Control Center located in the boiler room. See photo below at right.

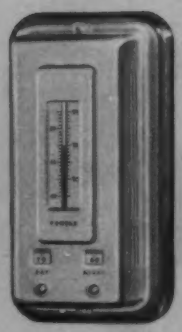
Day control for the air conditioning systems during the cooling season consists of dew point control for the chilled water coils with individual reheat mixing damper control for each zone controlled from a zone thermostat.

Night control of the air conditioning systems provides reduced room temperatures during the summer "night" cycle when the buildings are unoccupied, with a minimum of refrigeration. This feature is designed to provide precooling and reduced start-up load.

A Powers MASTROL System controls the hot water heating system plus individual room control of convectors in critical areas.

In the Year 2000, the Powers temperature control system at Linton will likely still be functional. Twenty-five to 50 years of dependable operation with a minimum of maintenance is often reported by users of Powers control.

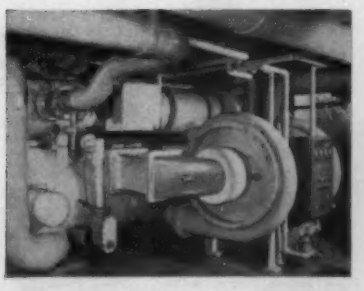
In Your New School make sure taxpayers get the biggest return on their investment in accurate temperature control. Ask your architect or engineer to include a time-proven Powers Quality System of Control.



190 Powers DAY-NIGHT Thermostats here help prevent OVERheating in occupied rooms and are adjustable for lower economical temperatures during unoccupied periods.

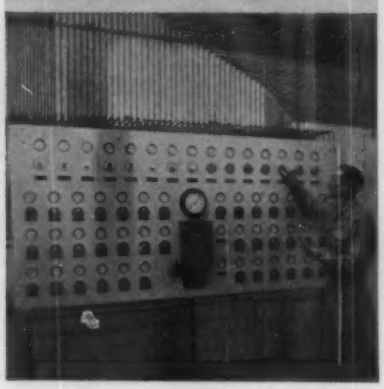
216 Powers PACKLESS Control Valves are used on convectors and unit ventilators. They're labor savers, banish packing maintenance and will prevent damage from water leakage.

THE POWERS REGULATOR COMPANY
SKOKIE, ILL. | *Offices in chief cities in U.S.A. and Canada*
65 YEARS OF AUTOMATIC TEMPERATURE AND HUMIDITY CONTROL



Left: 235 Ton Centrifugal refrigeration compressor has ample capacity for building D and library, or auditorium alone when other two buildings are not in use.

Right: Powers Control Center in boiler room. Center photo: one of 5 air conditioning systems and 9 of 68 Powers Sub-Master Thermostats controlling conditioned air to various spaces.



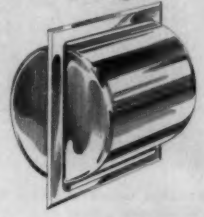
Add to the beauty and liveability of your bathroom

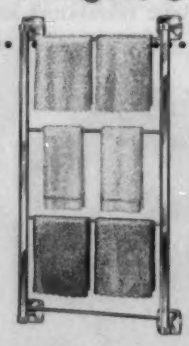
Inch for inch, the bathroom gets more hard wear than any room in the house. Making it into a showplace and keeping it that way requires more than good intentions. That's why so many architects, builders, and homemakers specify Hall-Mack Accessories. They know these quality fixtures retain deep, gleaming beauty under rugged usage. And they recognize at a glance the highly original ideas that make these accessories *extra* convenient for family and friends. Skillfully designed to blend with any decor, these famed accessories combine sparkling beauty and unusual utility to add real livability to this important room. Hall-Mack Accessories . . . first choice far and away.

HALL-MACK®

bathroom accessories in sparkling *chrome*

Concealed Toilet Paper Holder is recessed – has a gleaming chrome cover that lifts at the touch of a finger!





New chrome Towel Ladder gives extra towel space so often needed.

New chrome plated Shower Recess Unit – handy, safe spot for shampoo bottles, etc.

Sold by leading plumbing, tile, and hardware dealers everywhere.

HALL-MACK COMPANY *Division of TEXTRON INC.*
1380 W. Washington Blvd., Los Angeles 7, California

☐ Please send your FREE color booklet of new bathroom ideas

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

AR-11

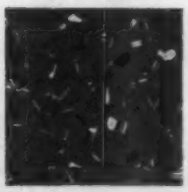
B.F.Goodrich

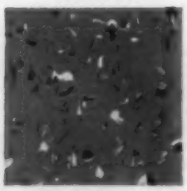
SPARKLING NEW VINYL FLOOR TILE ENHANCES ANY INTERIOR YOU DESIGN

Now you can have new freedom in designing interiors with this stunning new vinyl tile that's equally at home in modern or traditional interiors.

New "Suprex" Koroseal is a stunning flecked tile that's solid vinyl clear through—there are no laminates to crack or peel. What's more, detergents, greases, oils, household chemicals and other common spillages can't harm it. And its rich luster wipes clean with a damp mop.

Use on or above grade. 9" x 9" tiles, 80 gage and ⅛" thicknesses in 13 glowing colors. For further information, write The B. F. Goodrich Company, Flooring Products, Watertown 72, Mass., Dept. AR-11.





"SUPREX"
Koroseal®
VINYL
FLOOR TILE

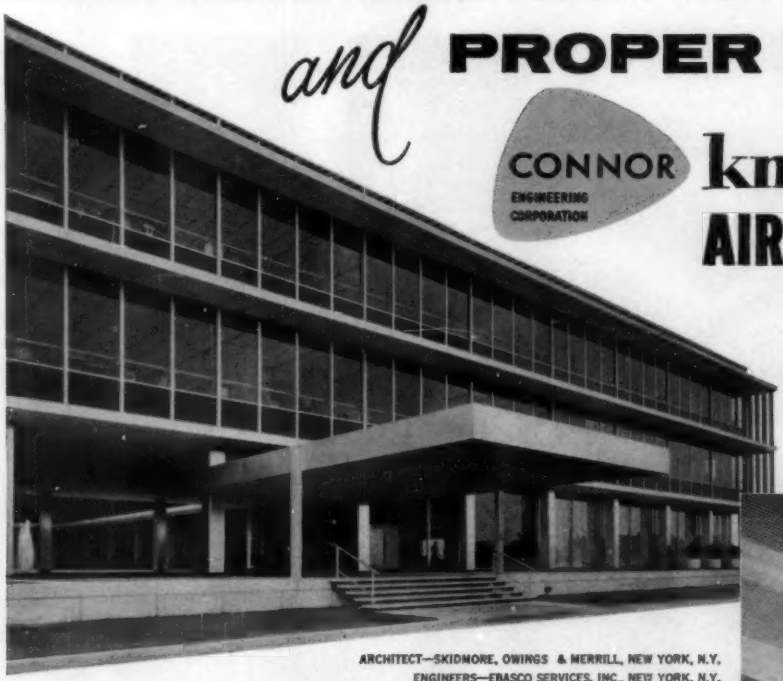
B.F.Goodrich *flooring products*

PERFECT FIT *and* PROPER FUNCTION

CONNOR ENGINEERING CORPORATION

kno·draft® AIR DIFFUSERS

FOR THE NEW REYNOLDS METALS BUILDING



ARCHITECT—SKIDMORE, OWINGS & MERRILL, NEW YORK, N.Y.
ENGINEERS—EBASCO SERVICES, INC., NEW YORK, N.Y.
CONTRACTOR—HUFFMAN-WOLFE SOUTHERN CORP., CHARLOTTE, N.C.

Connor engineers and equipment solved a unique two way air conditioning problem at the new Reynolds Metals office building, Richmond, Virginia.

A. Functionally, Connor equipment permitted *complete* concealment of *both* the air diffusers and return registers above a grid ceiling, with proper air distribution assured.

B. Architecturally, Connor equipment, where necessarily exposed, hardly reveals its purpose by stylistically conforming with the striking simplicity of the building's interior.

Diffuser installation above ceiling is an engineering accomplishment previously believed unworkable.

Pre-installation tests conducted at Connor's laboratory proved conclusively that the high degree of air entrainment produced by the Kno-Draft single stream diffuser satisfactorily would move air upward through the grid ceiling, where it would mix thoroughly with the supply air, and provide the areas below with constant, highly efficient air conditioning. And since installation, the equipment has been serving the Reynolds building to complete satisfaction.

Contact Connor for recommendations on your air distribution problems . . . common or uncommon. Our research and long practical experience guarantees you constant comfort conditions.

In grid ceiling areas, diffusers and return registers are entirely hidden.

In the plastered ceiling cafeteria, black, rounded contour units conform with the decor.

A standard Kno-Draft diffuser in an office area.

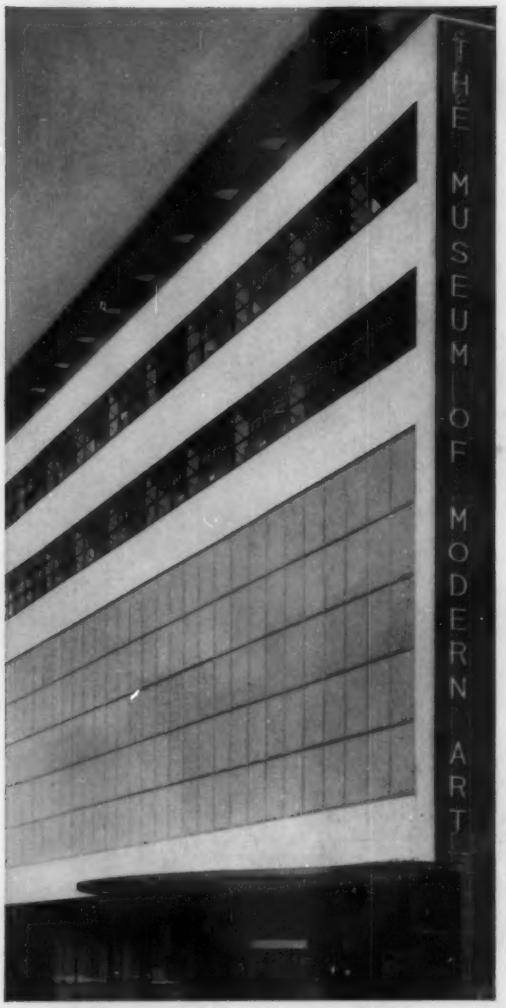
In other areas, linear diffusers, virtually unnoticeable from below, are mounted along the wall.

The above ceiling diffusers and the specially designed round and slotted units perfectly fulfilled stylistic requirements.
And not unexpectedly, Connor equipment is of all-aluminum construction.

CONNOR ENGINEERING CORPORATION

DANBURY • CONNECTICUT

CONNOR kno·draft® high velocity air diffusers

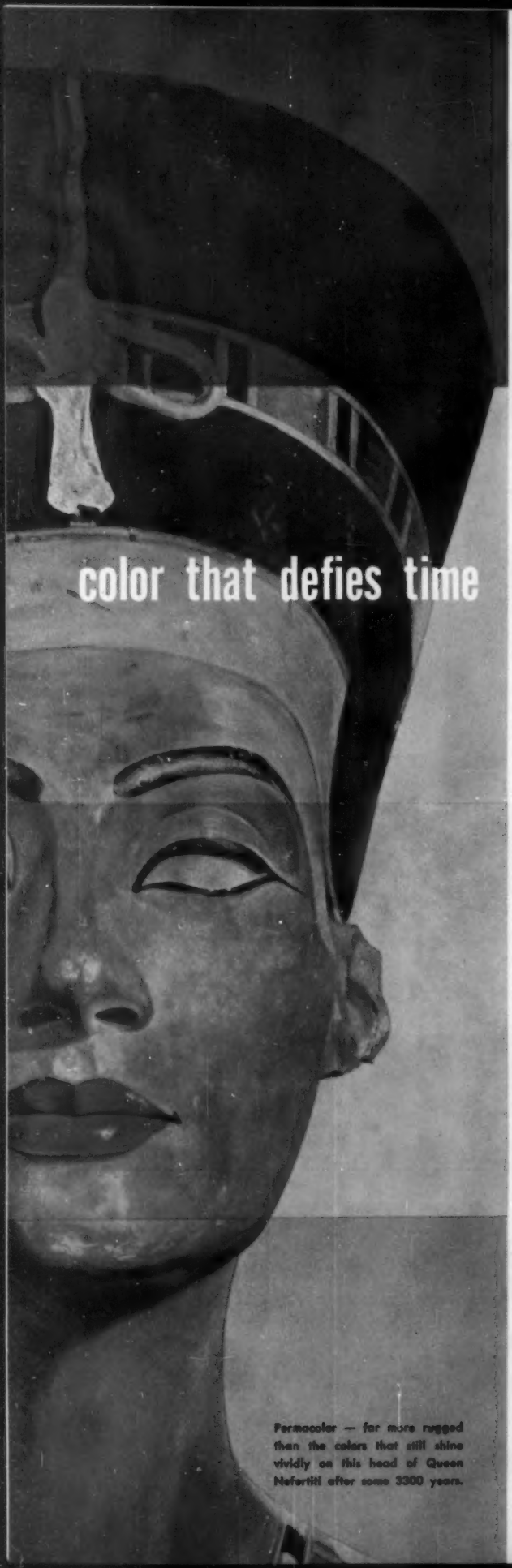


The Museum of Modern Art chose **AETNA & AETNAPAK** hollow metal doors and frames

Four short months were allotted to repair damage done by fire to New York's Museum of Modern Art and to carry out extensive renovations. To avoid unnecessary hollow metal custom engineering delay, Aetna worked out a plan with the architect and contractor according to which openings requiring almost immediate delivery were supplied from stock AETNAPAK inventoried components; special frames and doors for later erection were AETNA custom engineered.

Architect: Philip Johnson.
Contractor: George A. Fuller Company.

AETNA STEEL PRODUCTS CORPORATION
730 Fifth Avenue, New York 19, N.Y.



color that defies time

Permacolor — far more rugged than the colors that still shine vividly on this head of Queen Nefertiti after some 3300 years.

Design offices in any color . . .
so long as it's VMP Permacolor!

New VMP Permacolor Mobilwalls give you a complete spectrum of color that defies time. Mix exactly the shade you want . . . and let VMP match it precisely . . . and *permanently*. Or choose from a wide range of ready-mixed Permacolor tones. Either way, the office colors you specify are there for keeps!

Before offering Mobilwalls in this remarkable new finish, VMP proved it against extremes of abrasion . . . corrosion . . . light . . . heat . . . cold . . . dampness . . . and dirt.

The VMP representative nearest you will gladly show you the actual data from these tests. Call him soon. Satisfy yourself that the beauty of VMP Permacolor defies all the enemies of walls!

NEW VMP PERMACOLOR

VMP PERMACOLOR vs BLEACHING LIGHT Exposed hour after hour to powerful electric arcs, far more bleaching than any office sunshine, VMP PERMACOLOR kept its true, original tone.

VMP PERMACOLOR vs ABRASION Pounded by rough, heavy rollers, VMP PERMACOLOR proved its ability to keep its rich beauty under conditions far more rigorous than real-life wear.

In the last two years, 19 of America's 20 largest corporations installed VMP Mobilwalls . . . such leaders as Ford Motor Company, U. S. Steel, General Electric, Chrysler, and Western Electric. These VMP Mobilwalls went into smart offices, busy corridors, divided work areas, reception centers, laboratories. They're providing the rigidity and good looks of permanent partitions. Yet they can be reshuffled to meet future needs as easily as a company can redraw its organization chart!

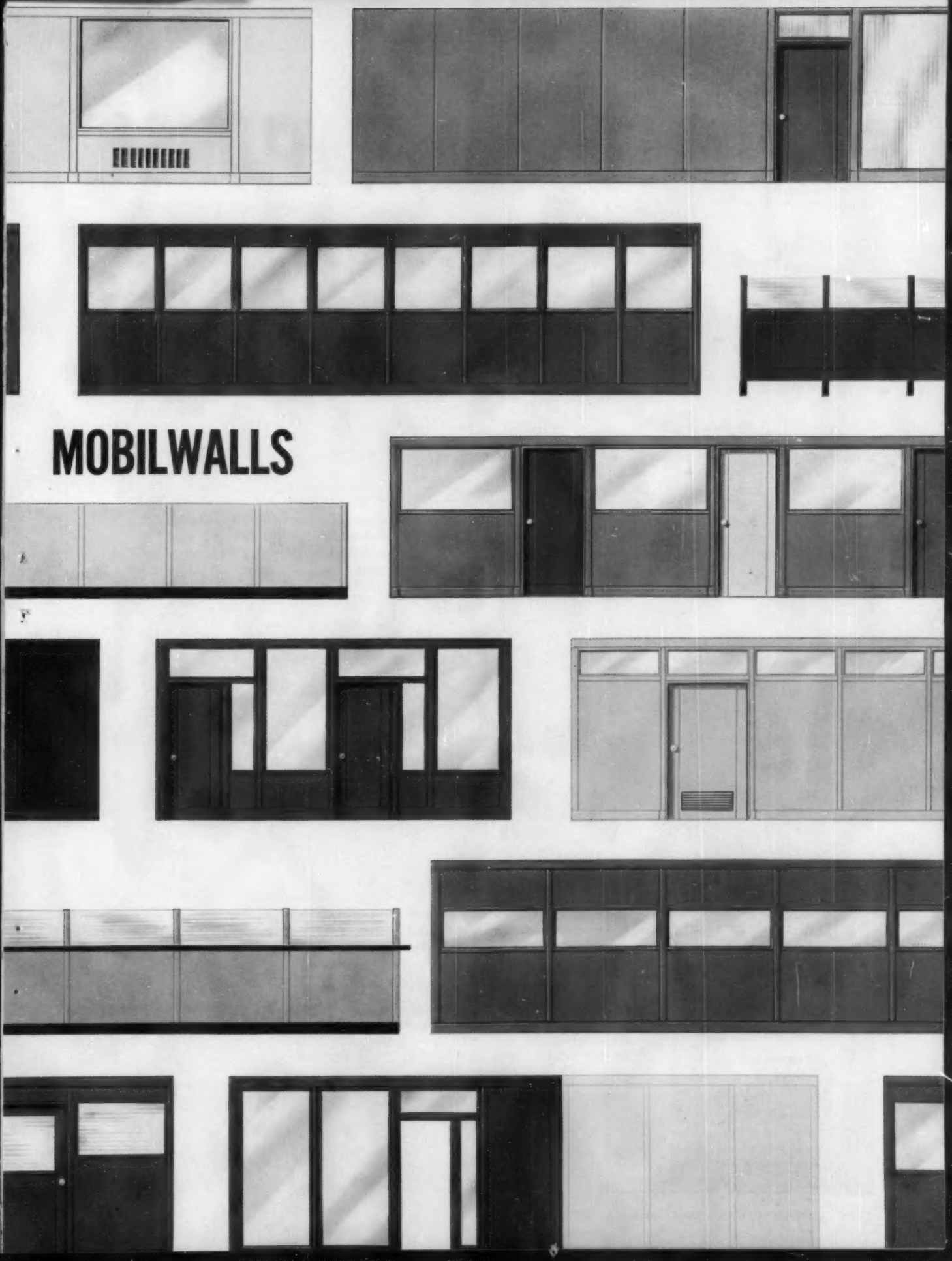
SEE SWEET'S 1958 ARCHITECTURAL FILE, Section 22, Number 22a/Vi for complete specifications and engineering advantages of VMP Mobilwalls. A full range of the most rugged, rigid, interchangeable and easily wired movable metal partitions in the entire modular construction field. *Now finished in time-defying Permacolor.*

VMP

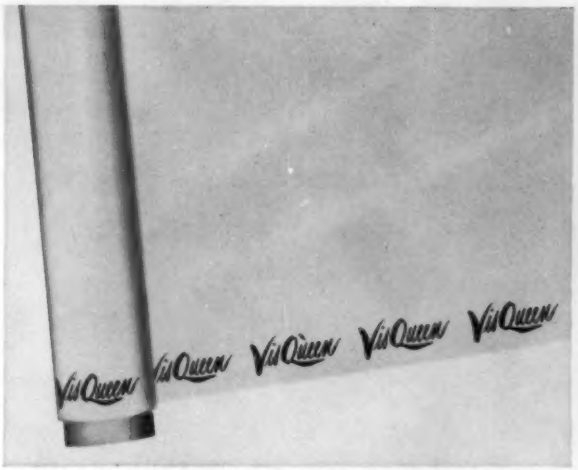
PERMACOLOR MOBILWALLS

Virginia Metal Products, Inc. Orange, Virginia

A Subsidiary of Chesapeake Industries, Inc.

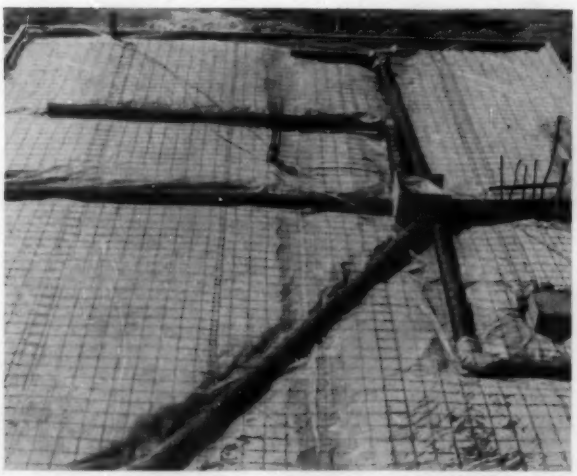

MOBILWALLS

BEWARE OF IMITATIONS!



Be Sure: Look for the VISQUEEN mark on every foot of VISQUEEN film. This trademark is your assurance that you have the first and foremost polyethylene film.

Be Safe: VISQUEEN film meets Federal Housing Administration Minimum Property and Test Requirements and Federal Spec. UU-P-147B as it pertains to moisture vapor control.



Be Ahead: ONLY VISQUEEN film comes in *seamless* widths up to 32' for faster, lower cost coverage. No piecing together of narrow widths . . . greater durability and strength.

Visqueen film will not flash, sustain combustion. Tough: Won't break or pinhole when folded, flexed. Won't run or shatter if punctured. Unaffected by heat or cold, acids, alkalis, caustics. Write now and save.

information request tag

VisQueen
Trade Mark

clip this tag—# AR 11
attach to letterhead, mail.

VISQUEEN *film—first and foremost polyethylene film.*
A product of the long experience and outstanding research of
PLASTICS DIVISION
VISKING COMPANY *Division of* UNION CARBIDE *Corporation.*
6733 West 65th Street, Chicago 38, Ill.
In Canada: VISKING COMPANY DIVISION OF UNION CARBIDE CANADA LIMITED, Lindsay, Ontario.
VISQUEEN, VISKING and UNION CARBIDE are registered trademarks of Union Carbide Corporation.

Color-ceil®

.....THE "FLOATING PANEL" OF COLOR AND LIGHT

that provides

HIGH LEVEL LIGHTING WITH COMPLETE SEEING COMFORT

Color-Ceil is a "Floating Panel" luminaire specifically developed for use with Power Groove fluorescent lamps. It embodies an entire new concept of design to provide lighting levels of 200 footcandles or more—efficiently and with complete freedom from glare and unpleasant brightness contrast.

Color-Ceil also adds a new dimension in lighting—COLOR—in the form of tinted plastic louvers, softly illuminated by an indirected system of lighting.

The unique combination of design features of Color-Ceil has been judged by experts to be one of the most significant lighting developments of recent years. Despite its advanced design which eliminates an inherent disadvantage of prevailing system—the monotony of row after row of lights, Color-Ceil costs less per footcandle per square foot than many other lighting systems and provides more light for seeing, selling or working.

EXCLUSIVE FEATURES

1. A practical method of obtaining illumination in commercial interior with complete flexibility of . . .

   50 footcandles with Slimline lamps
   100 footcandles with High Output lamps.
   200 footcandles with Power Groove lamps

2. Introduces color without sacrifice in efficiency and without distortion of color value of light.
3. Easy to install—easy to maintain.
4. Lowest in cost for any large area lighting system on a cost per footcandle per square foot basis.
5. Provides complete flexibility in dimension.
6. Offers concealment for unsightly ceiling beams, ducts and pipes.
7. Provides comfortable environment with complete shielding of light source and low brightness of luminous parts of fixture.

Send for Complete Details

THE COLOR-CEIL DESCRIPTIVE FOLDER

•

A four-color folder containing important facts on Color-Ceil—performance data, mechanical details, applications, etc. Requests on company letterhead promptly answered.

SILVRAY LIGHTING, INC.

BOUND BROOK • NEW JERSEY

Mahon ROLLING DOORS are

PROTECTED BY Bonderite PARKER RUST PROOF CO. QUALITY CORROSION RESISTANT

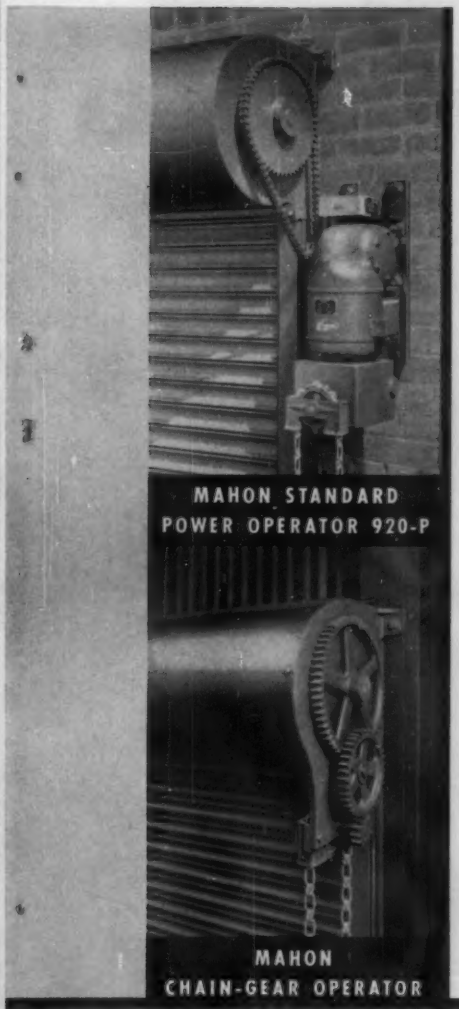
THE STEEL CURTAINS OF ALL MAHON ROLLING DOORS ARE BONDERIZED

Above are Two Mahon Power Operated Rolling Steel Doors, divided by Mullion, installed in a combination Truck and Railroad Opening 36'-9½" x 23'-0". The Railroad enters the plant at an acute angle. Large door at right is opened only for movement of railroad cars. Mullion moves to right jamb on overhead track.

Serving the Construction Industry Through Fabrication of Structural Steel, Steel Plate Components, and Building Products

Versatile in Application . . . Will Serve You Better in Any Type of Opening!

In Operation, the Fast, Vertical Roll-up Action Saves Valuable Time and Space — No Overhead Tracks to Restrict Headroom



MAHON STANDARD POWER OPERATOR 920-P

MAHON CHAIN-GEAR OPERATOR

MANUALLY, MECHANICALLY, or POWER OPERATED DOORS
STANDARD or UNDERWRITERS' LABELED

☆ OTHER MAHON BUILDING PRODUCTS and SERVICES:

- Insulated Metal Curtain Walls
- Underwriters' Rated Metalclad Fire Walls
- M-Floors (Electrified Cellular Steel Sub-Floors)
- Long Span M-Decks (Cellular or Open Beam)
- Steel Roof Deck
- Permanent Concrete Floor Forms
- Acoustical and Troffer Forms
- Acoustical Metal Walls and Partitions
- Acoustical Metal Ceilings
- Structural Steel—Fabrication and Erection
- Steel Plate Components—Riveted or Welded

☆ *For INFORMATION See SWEET'S FILES or Write for Catalogues*

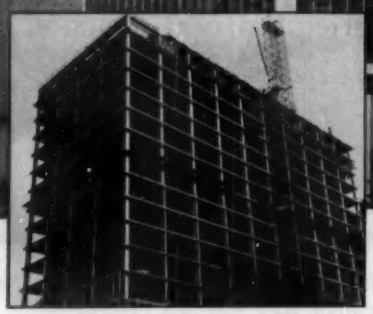
THE R. C. MAHON COMPANY • Detroit 34, Michigan
Sales-Engineering Offices in Detroit, New York and Chicago
Representatives in all Principal Cities

of Steel and Aluminum

MAHON

Design changed to Reinforced CONCRETE to speed construction

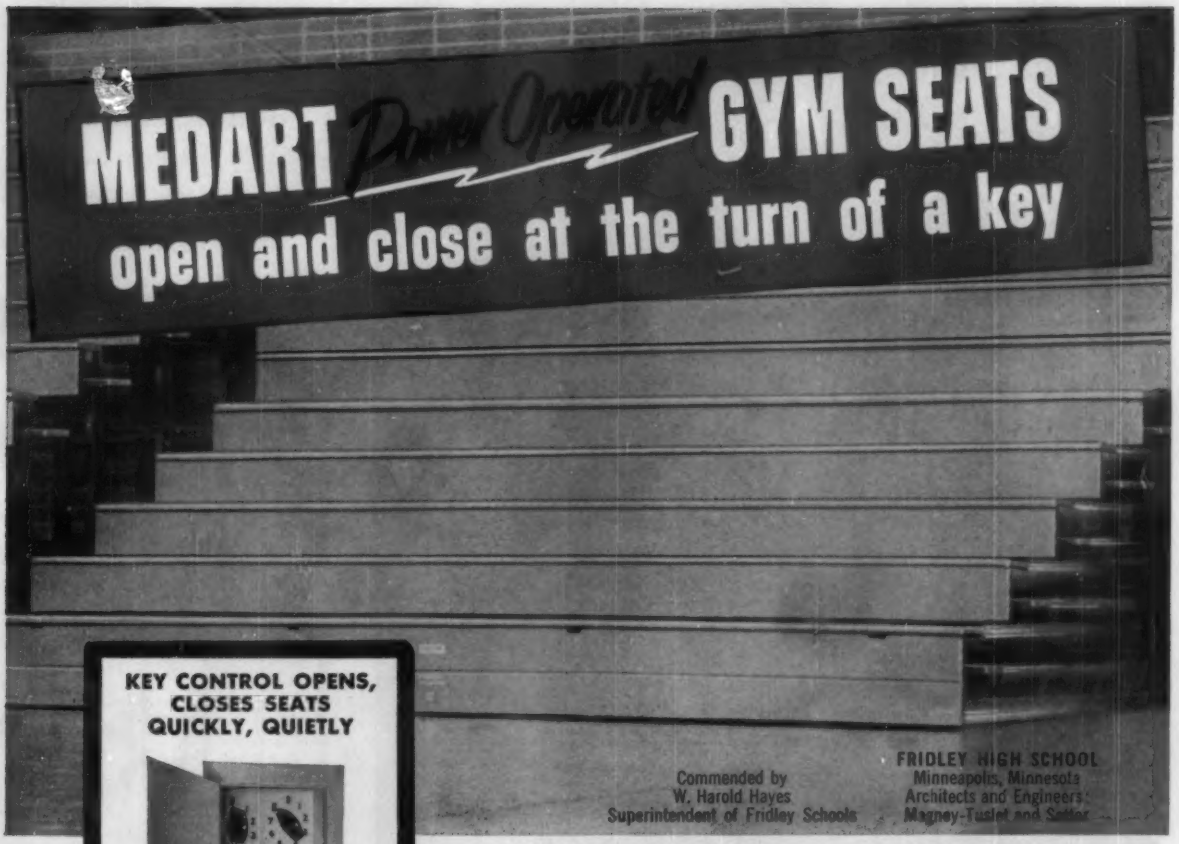
Photography by Bill Engdahl, Hedrich-Blessing



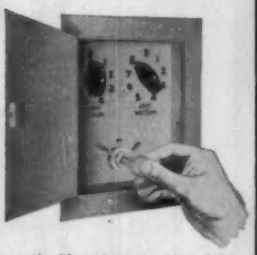
CLEVELAND ELECTRIC ILLUMINATING BUILDING
Architects: Carson & Lundin, New York City
Engineers:
McGeorge, Hargett & Associates, Cleveland
Contractor:
George A. Fuller Company, New York City

Another impressive example of reinforced concrete construction is Cleveland's newest downtown office building—headquarters of the Cleveland Electric Illuminating Company. The original design for the frame was changed to reinforced concrete due to a fourteen months' delivery date for structural members. As the foundation soil was water-soaked clayish sand, with bedrock 206 feet down, the building was "floated" on a reinforced concrete mat placed 18 feet below the street. Before you build, investigate this economical, flexible, and timesaving medium of construction.

CONCRETE REINFORCING STEEL INSTITUTE
38 South Dearborn Street, Chicago 3, Illinois

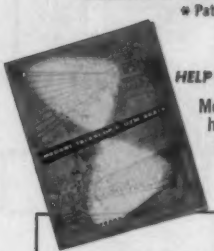


KEY CONTROL OPENS, CLOSES SEATS QUICKLY, QUIETLY



Moves the biggest seat sections into position in a few seconds. If all seats in any section are not needed, release of key stops movement instantly when wanted number of rows are in position. Automatic safety controls insure hazard-free operation. Key-operated control can be remotely installed anywhere. Removable key prevents unauthorized operation.

* Patents Pending



HELP ON GYM SEAT PLANNING

Medart's Gym Seat Catalog tells how to get better, safer seating with minimum investment. Write for your copy.

MEDART MAKES THE BEST:

Telescopic Gym Seats • Basketball Backstops
Basketball Scoreboards • Gymnastics Apparatus • Physical Therapy Equipment

Automation eliminates all manual effort—Power operators self-contained in seat sections—Key control switch may be installed anywhere

MEDART'S FULL AUTOMATIC POWER OPERATION* opens and closes the largest gym seat sections quickly, quietly, safely, without physical effort. Crashing, banging is eliminated—life of seats is prolonged—maintenance is reduced to a minimum.

No special construction provisions, no floor tracks, necessary. Building conditions remain same as for manually operated seats. Any 110-v. or 220-v. power source will do. Power operation plus Medart's exclusive "Floating Motion" and "Dual Align" guarantees smooth, non-binding trackage.

Write for illustrated brochure.

ONLY MEDART SEATS HAVE THESE PREFERRED FEATURES

1. Safer self-supporting free-standing understructure.
2. Eight vertical steel-angle uprights per seatboard.
3. Retracting rubber rollers put load on floor, not on casters or wall.
4. Interlocked telescoping supports and roller housings make operation easier, prevent binding.
5. Toughest, smoothest, most abrasion-resistant wood finish on market.
6. More leg and foot room—better visibility.

MEDART

TELESCOPIC GYM SEATS

***SPECIFY** the best, then **INSIST** on it!*

SEE OUR CATALOG IN SWEET'S

FRED MEDART PRODUCTS INC. • 3540 DE KALB ST. • ST. LOUIS 18, MISSOURI

Superior Standardline

pre-engineered

doors, frames, unit entrances, borrowed light and sidelight partitions

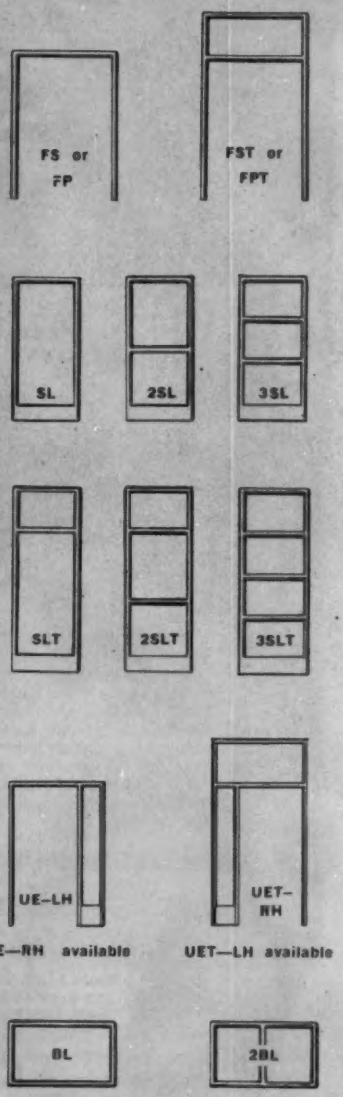
Delivery problems inherent in made-to-order, custom hollow metal have long hampered construction projects where materials are needed almost immediately after date of order.

The problem has been increased by the expanded use of slab on grade construction making it virtually impossible to meet short delivery schedules since too much time is needed for estimates, drawings, correction and revision of these drawings, preparation of hardware schedules and waiting for hardware templates. Special tooling and factory set-ups are also required, contributing to the delay and adding to the cost.

Superior Standardline answers these problems with a complete line of pre-engineered hollow metal doors, frames, unit entrances, side lights, and borrowed lights. These components may be installed or assembled in any combination without exposed screws or faceplates. Superior Standardline emphasizes service and provides all the quality construction features of architecturally designed custom hollow metal.

The wide range of standardized components allows the architect to exercise his imagination to the utmost while keeping cost at a reasonable level. Hardware cutouts have been carefully standardized to eliminate the need for template co-ordination while still retaining the versatility necessary to suit individual needs.

. . . the quality of custom construction
. . . the freedom of custom design
combined with "stock" economy and fast delivery



Superior Standardline CORP.

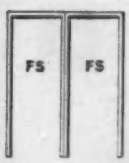
time-saver combinations . . .

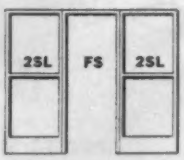
Combinations of SUPERIOR STANDARDLINE frames, sidelights, and borrowed lights quickly and easily solve space division and light distribution problems.

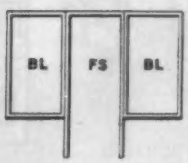
A simple, positive, patent-protected interframe fastening allows SUPERIOR STANDARDLINE components to be used in combinations with unrestricted freedom of design.

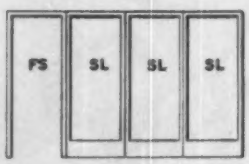
Glass or solid panels can be used to meet interior design goals. Vitreous or vinyl clad steel panel inserts, in unlimited color combinations, may be ordered with the frames.

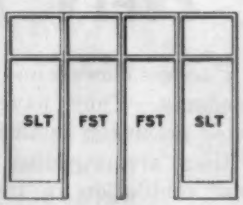
The elevations shown are offered only as a guide.

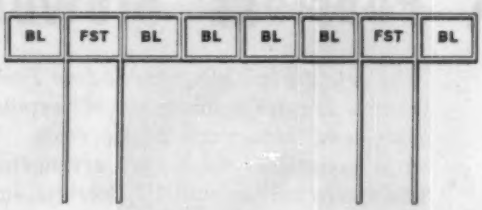


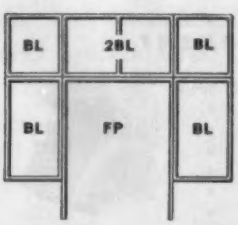


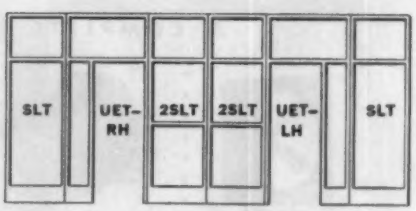




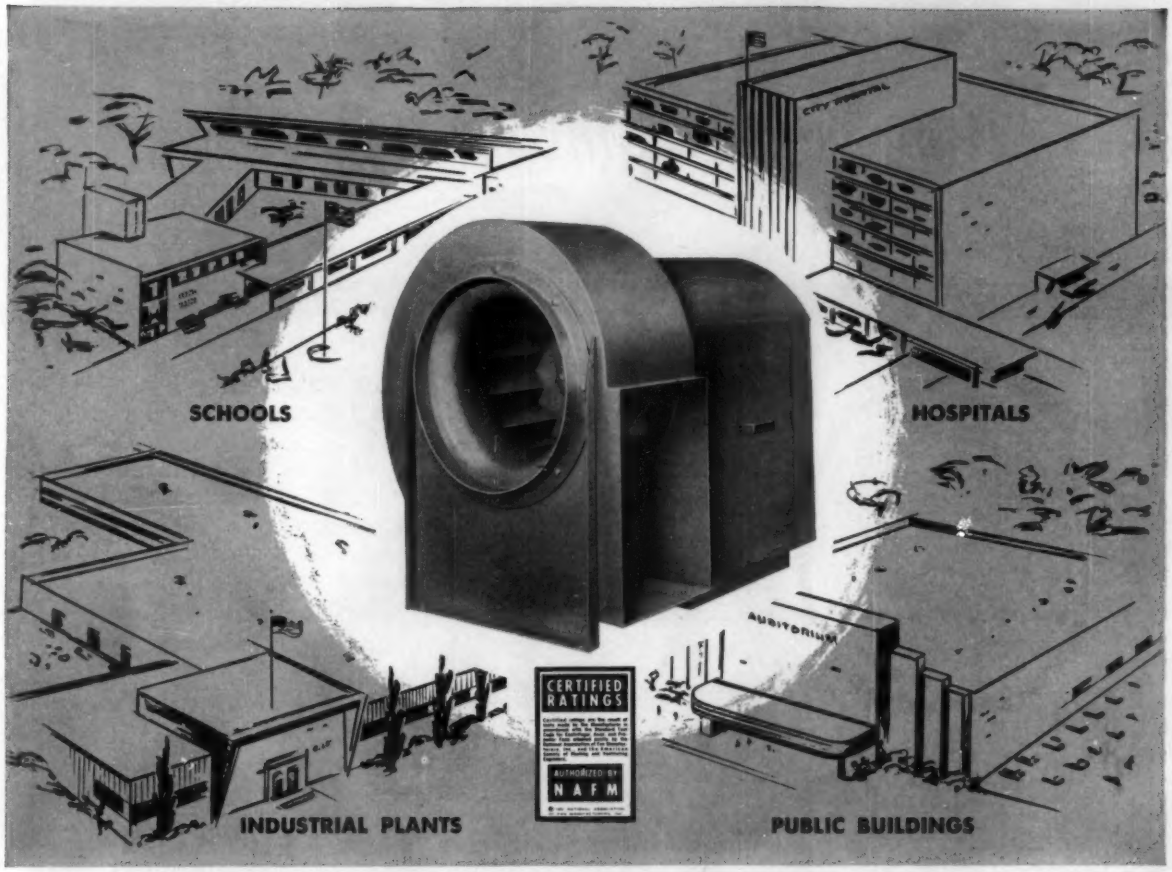








4175 PARK AVENUE, NEW YORK 57, NEW YORK • MID-AMERICA SALES OFFICE, 64 EAST LAKE ST., CHICAGO 1, ILL.



A Peerless Blower for Every Application

Quiet, dependable, trouble-free Peerless blowers require a minimum of installation space and reduce mounting costs. They offer countless discharge arrangements. The entire unit is built by Peerless, including the motor.

Peerless blowers meet and excel industry standards. They have been thoroughly tested according to test codes. Thousands of them are providing economical, continuous ventilation in installations all over the country.

Write today for Bulletins SDA-160, SDA-200 and SDA-220!

A COMPLETE LINE OF AIR MOVING EQUIPMENT

Member of the Air Moving and Conditioning Association, Inc. (AMCA)

Peerless Electric

FAN AND BLOWER DIVISION

THE Peerless-Electric® COMPANY

1448 W. MARKET ST. • WARREN, OHIO

FANS • BLOWERS • ELECTRIC MOTORS • ELECTRONIC EQUIPMENT

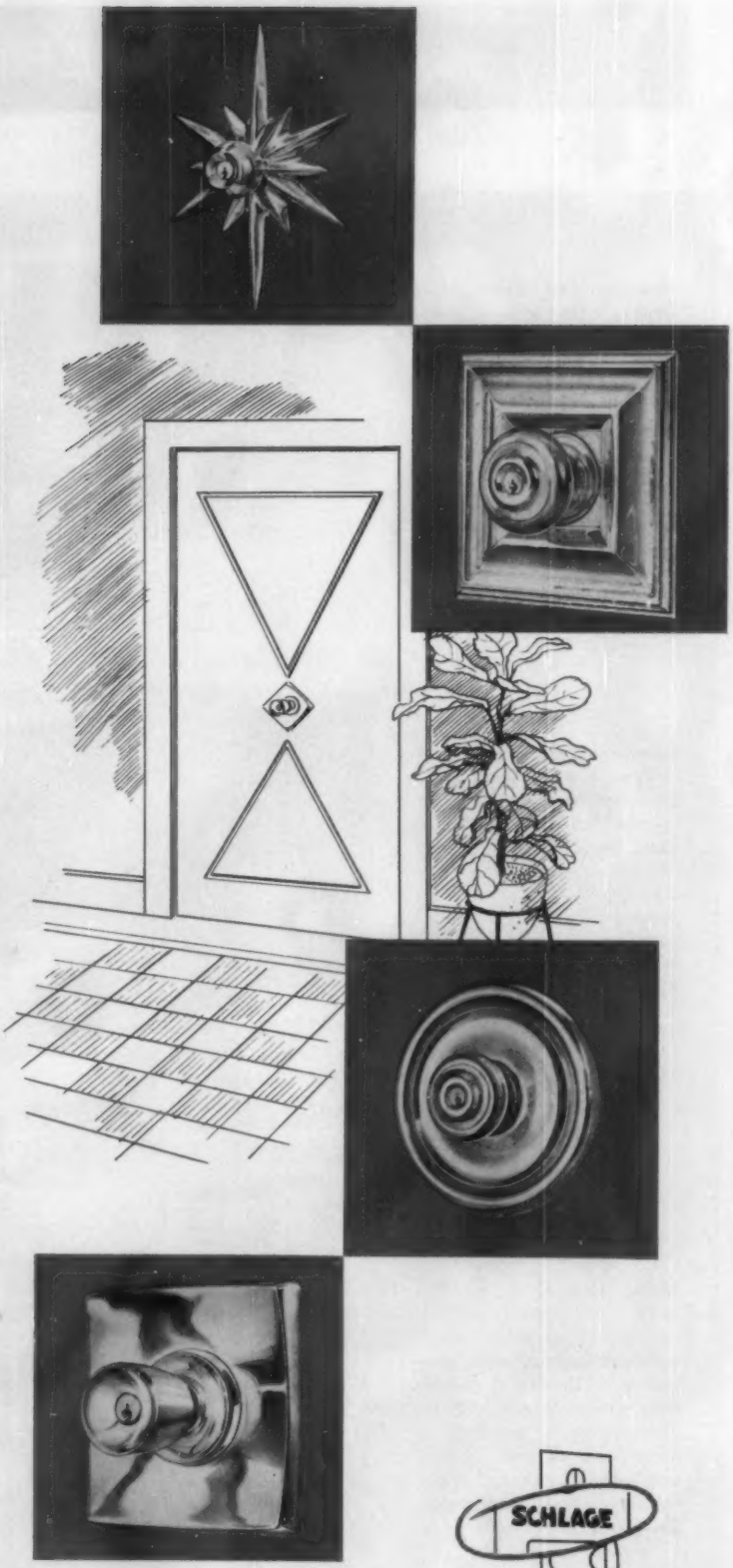
Look for our Catalog in Sweet's

SCHLAGE CYLINDRICAL LOCKS HELP YOU EXPRESS YOUR ORIGINALITY

Long backsets, versatile escutcheons, compact units give you flexibility

Whatever motif you create for a new building, there are Schlage-designed locks that will complement it. Schlage's range of styles and finishes gives you unfettered freedom to create eye-catching doorways.

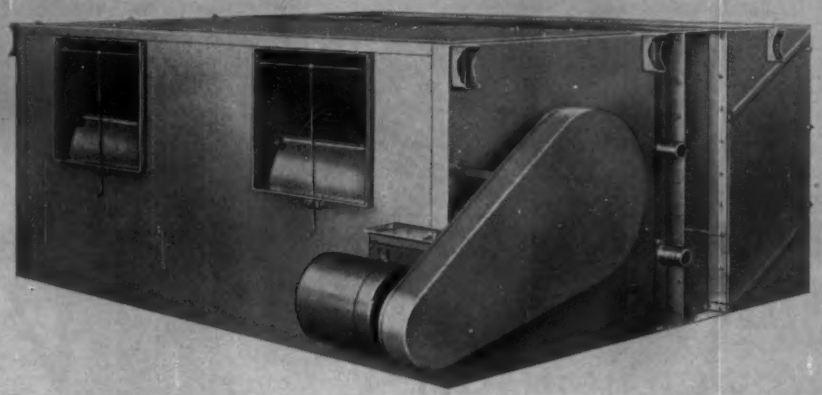
In addition to beauty, Schlage gives you these advantages of cylindrical lock design: easy installation with two drilled holes, pushbutton security, minimal maintenance, one-hand unlocking with the Schlage key-in-knob feature. Schlage Lock Company . . . San Francisco . . . New York . . . Vancouver, B. C.



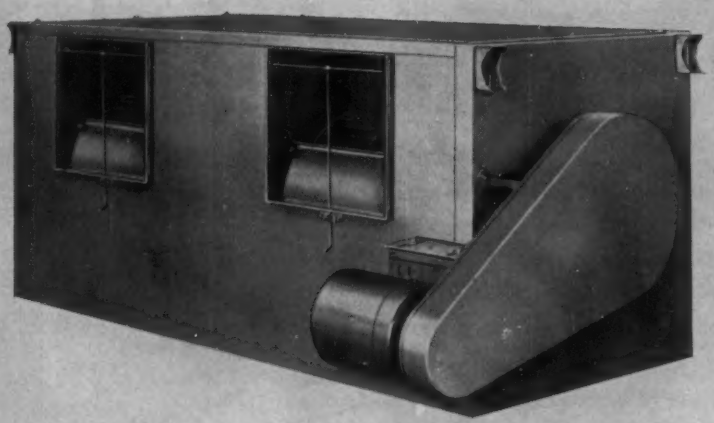
AMERICA'S MOST DISTINGUISHED LOCK BRAND

NOW! AMERICAN BLOWER

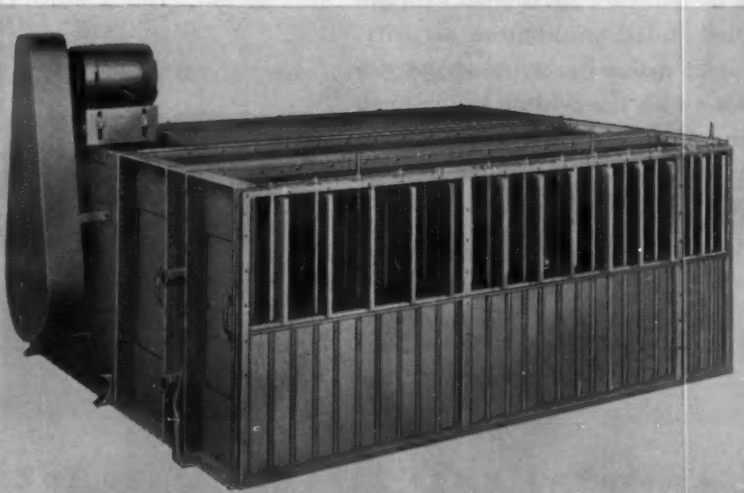
Heating and Ventilating Unit — Type V gives complete coverage of central-station heating and ventilating requirements. Steam or hot-water heating; large-volume, extra-quiet Sirocco Fans, for adequate heating and for ventilation. Ideal for offices, auditoriums, factory areas, gymnasiums, laboratories, schools and stores. Bulletin 8927.



Lineflow Ventilating Unit — Type L is a quiet, compact air handling unit for commercial and industrial uses. Designed for filtered air supply; fume and foul-air exhaust; air-conditioning zone distribution; and non-fouling kitchen and laboratory hood exhaust. Bulletin 8927.



Multi-Zone H & V Unit — Type VB provides individual zone control of temperature from a single central unit. Utilizes a "blow-thru" arrangement with individual zone dampers at the discharge end. Typical applications: schools, laboratories, offices and stores. Bulletin 8927.



DESIGNS NEW FLEXIBILITY INTO . . .

Heating and ventilating systems tailor-made with standard units

Sectional construction of basic components provides the required capacity, at savings in time, money and space!

Want the efficiency and operating economy of a "tailor-made" heating or ventilating system? Need the lower initial installed cost of pre-engineered, "ready-made" components? Build around one of these three new H & V Units by American Blower!

American Blower Heating and Ventilating Units offer broad capacity coverage, with eleven sizes to handle from 600 to 66,000 cfm. New flexible design and sectional construction give a bigger selection of efficient combinations and space-saving arrangements to fit your requirements.

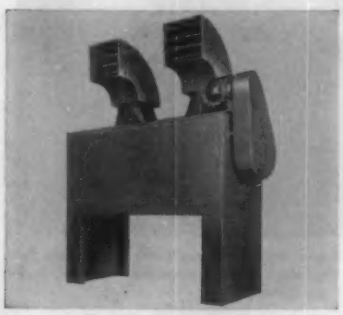
Units, coils and accessories assemble into a custom system at a packaged price. For example, there are eight unit arrangements based on fan rotation and discharge; four types of heating coils in a variety of arrangements with either top or bottom by-pass; and accessories such as filter boxes, face and by-pass dampers, damper-mixing boxes, and floor-base combinations.

Every American Blower H & V component is precision-made for fast mounting and low-cost installation. Units are easy and economical to maintain and service because motors, drives and bearings are externally mounted, easily accessible. For full details, send for Bulletin 8927.

Remember: When you specify American Blower, you get equipment that's designed, engineered and manufactured to work together . . . *plus* one-source responsibility for its performance. Branch offices in 73 cities offer local product help or nationwide sales-service coordination. American-Standard,* American Blower Division, Detroit 32, Michigan. In Canada: Canadian Sirocco products, Windsor, Ontario.

Venturafin® Unit Heaters—for steam or hot water. Quiet; adjustable louvers. Horizontal or vertical. Bulletin 9017.

Cabinet Heaters—attractive, quiet. Models for all applications. Steam, hot water; to 1860 cfm. Bulletin 9617.



Industrial Unit Heaters—high-capacity, quiet. Universal cowls. Steam, hot water; 7 sizes, 4 arrangements. Bulletin 7727.

*American-Standard and Standard ● are trademarks of American Radiator & Standard Sanitary Corporation.

AMERICAN-Standard
AMERICAN BLOWER DIVISION

Square access boxes are easily leveled by adjusting the corner screws on this Spang Headerduct installation.

SPANG Headerduct Protects Wiring in Pittsburgh's New Porter Building

speeds installation, allows wiring flexibility, provides for low-cost future wiring changes

Two 110-foot runs of Spang Headerduct carry the wiring for electric and telephone lines on each floor of the Porter Building.

Architect: Harrison & Abramovitz, New York
Electrical Engineer:
Edward E. Ashley & Associates, New York
General Contractor:
George A. Fuller Company, New York
Electrical Contractor:
Hale Electric Company, Pittsburgh
SPANG Distributor:
Pittsburgh Electric Supply Co., Pittsburgh

SPANG-CHALFANT
DIVISION OF THE NATIONAL SUPPLY COMPANY
Two Gateway Center, Pittsburgh 30, Pa.

Cellular-type floor construction was used on the 2nd through 16th floors of the Porter Building, Pittsburgh's newest skyscraper. SPANG Headerduct was installed over the flooring to feed electric power and telephone wires to the floor cells.

EASY INSTALLATION

SPANG Headerduct saved installation time. The exclusive square access units and junction boxes provided maximum working area to make wiring connections. Corner leveling screws meant accurate adjustments could be made quickly to bring the Headerduct up to screed level. This square-unit design also saved time on floor tile laying, since no curved cutting was required.

SERVICE WHERE IT'S NEEDED

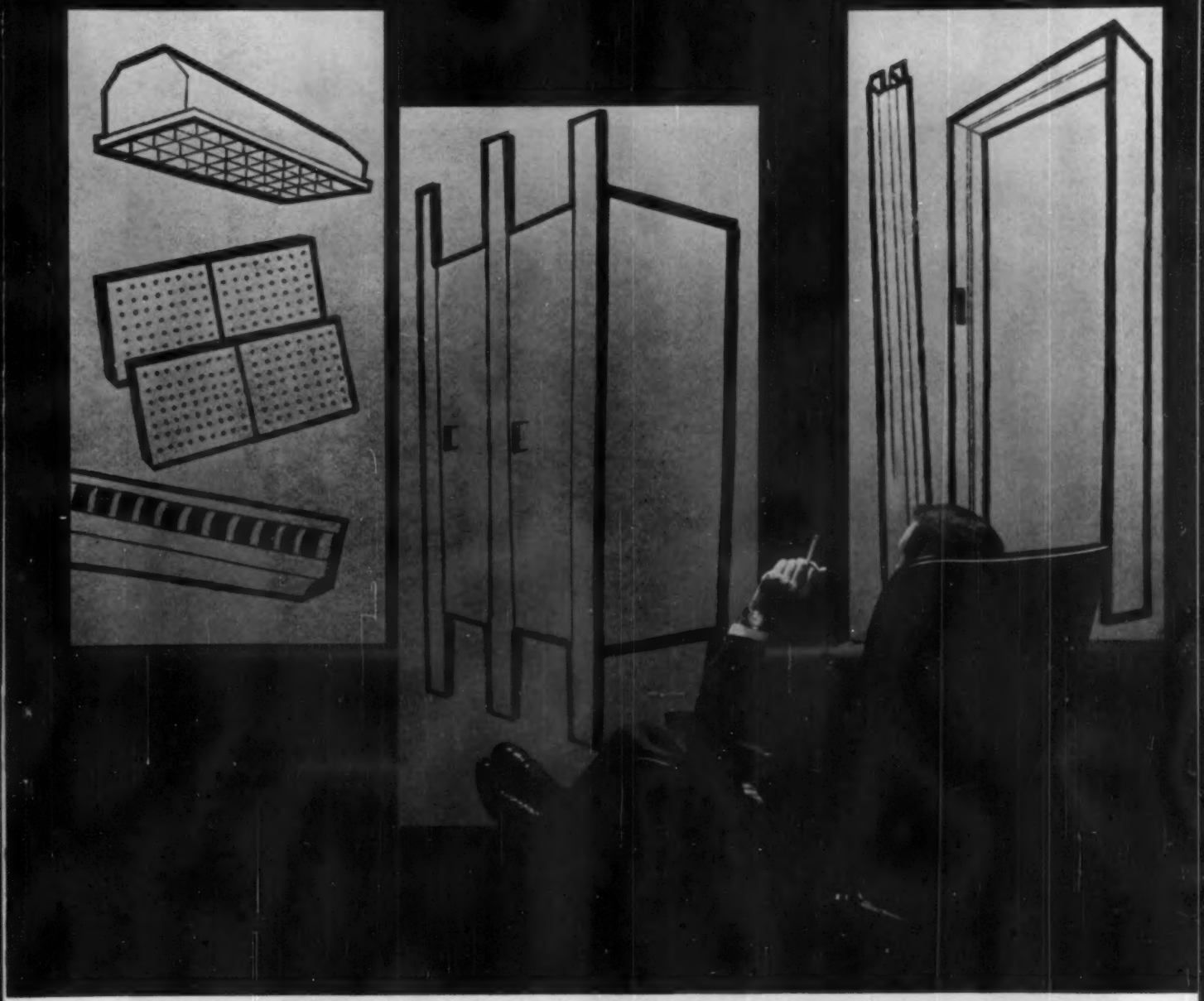
Access boxes every 36 inches along both the electrical and telephone headerduct runs feed wiring into the floor cells, providing as many electrical and phone outlets as the building tenants will require—both for today and in the future. SPANG Service Fittings, containing the latest engineering designs, were easily installed . . . will stay firmly in place.

FUTURE CHANGES NO PROBLEM

SPANG Headerduct permits future office changes to be made without expensive rewiring. Old outlets are easily sealed up. Access boxes are readily located, and additional wiring is added as needed.

NEED INFORMATION?

New booklets on SPANG Underfloor Duct and "How to Install SPANG Headerduct" are available. We'll be glad to send you copies. Write today.



THE EASY WAY TO PREVENT CORROSION IN YOUR BUILDING? SPECIFY ZINC-COATED STEEL SHEETS, OF COURSE!

There's just nothing like zinc-coated steel sheets for enduring, economical corrosion prevention in the things you want fabricated—such as wall partitions. Or in the manufactured products you specify such as light troffers, metal ceiling tiles, baseboard heating units and scores of other products.

Take the formability of such sheets, for instance. With either electrolytic or continuous process zinc-coated steel, the tight coating can take the severest fabrication operations and never flake or peel. Result: permanent corrosion resistance for longer life and lasting beauty. First cost: low. Maintenance costs: nil.

How about paintability? Electrolytically zinc-coated steel sheets, chemically treated, are unexcelled for painted products. Paint digs in and holds its unbroken smoothness and beauty for keeps.

In electrolytic zinc-coated steel, the name that stands out is Weirzin. In continuous process zinc-coated steel sheets, it's Weirkote. Let us show you how Weirzin or Weirkote—or both—can help you meet your building requirements better.

Write for free informative brochure on each today. Weirton Steel Company, Dept. Q-2. Weirton, W.Va.

WEIRTON STEEL COMPANY

WEIRTON STEEL COMPANY

WEIRTON, WEST VIRGINIA

a division of

NATIONAL STEEL CORPORATION

Curtis Silentite double-hung wood windows help create a homelike atmosphere in the Zeta Tau Alpha sorority house, Lincoln, Nebraska. Harold C. Potter, Lincoln, Nebraska, architect.

CURTIS

CURTIS WOODWORK
SILENTITE PRE-FIT
the insulated window

On the honor roll in school service

Curtis wood windows and flush doors

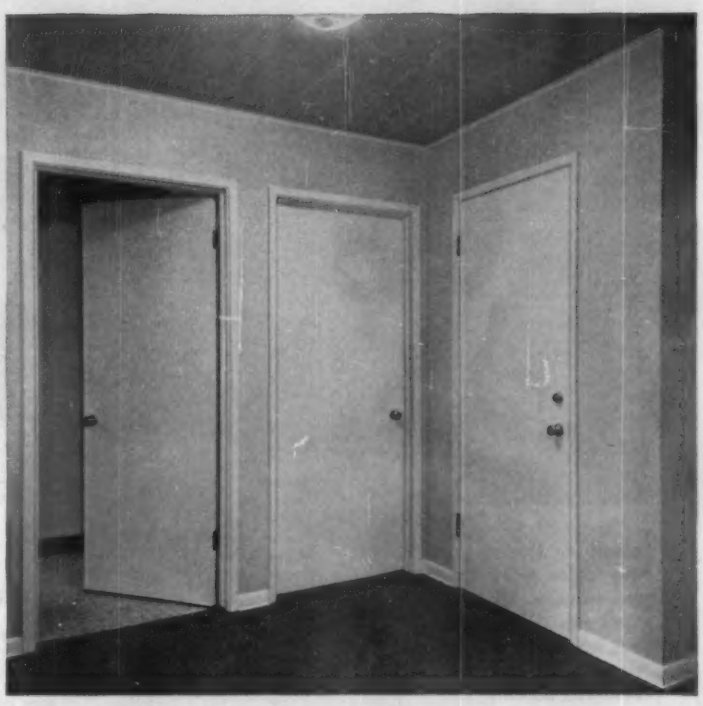
The trend is definite—a fact borne out by hundreds of installations. Architects all over the country are specifying Curtis Silentite wood windows and Curtis New Londoner hollow-core flush doors for schools and other public-use buildings.

Why Silentite windows? Because they are beautiful—with slender muntins, narrow trim. Because they are topnotch for weather protection and easy operation. Because they have the warmth and utility of wood...are preservative-treated, made for lifetime service.

Why New Londoner doors? Because of their carefully matched face panels and the patented locked-in wood core which makes them immune to warping, swelling or shrinking.

GUARANTEED QUALITY

More than 92 years of experience stand behind the Curtis guarantees for Curtis Silentite windows, Curtis New Londoner and Curtis American flush doors—positive assurance of quality.



Curtis New Londoner flush doors in Zeta Tau Alpha house.

Curtis NEW LONDONER HOLLOW-CORE FLUSH DOORS

CURTIS

WOODWORK *heart of the home*

Curtis Companies Service Bureau
200 Curtis Building
Clinton, Iowa AR-11-58

Please send me information on Curtis New Londoner and Curtis American flush doors.

Name .....

Address .....

City ..... *State* .....

Look to **Rō-Way Garage Doors** for Top Quality in Every Model

Compare Ro-Way overhead type garage doors with *any* other make and you'll see why Ro-Way offers top value.

Greater dimensions in millwork and hardware . . . efficient design . . . skilled craftsmanship all combine to make the Ro-Way door an outstanding buy . . . a beautiful addition to any home . . . a rugged, smoothly-operating unit built to deliver long years of trouble-free service.

And best of all, this beauty and rugged construction are yours in *every* Ro-Way door—from deluxe models to the budget priced *Westchester*.

So compare. Then you, like thousands of builders, will choose Ro-Way, the garage door that sets the pace for quality.

Check These Rō-Way Features

Selected, kiln-dried west coast woods and hardboard panels. Mortise and tenon joints both glued and steel-pinned. Taper-Tite track and Seal-A-Matic hinges for easy opening, weather-tight closing. Quiet, smooth-gliding ball bearing rollers. Power-Metered Springs individually balanced to the weight of each door. All hardware doubly protected against rust and corrosion—both Parkerized and painted after fabrication.

New Model 80 electric operator and remote radio control now available. Write for details.

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE OR WRITE FOR COPY

there's a Rō-Way for every Doorway!

Find Your Nearest Distributor in The 'Yellow Pages'

RESIDENTIAL • COMMERCIAL • INDUSTRIAL

Rō-Way OVERHEAD TYPE DOORS

ROWE MANUFACTURING COMPANY

1292 Holton Street • Galesburg, Illinois

PRECISE STACK BOND WALLS

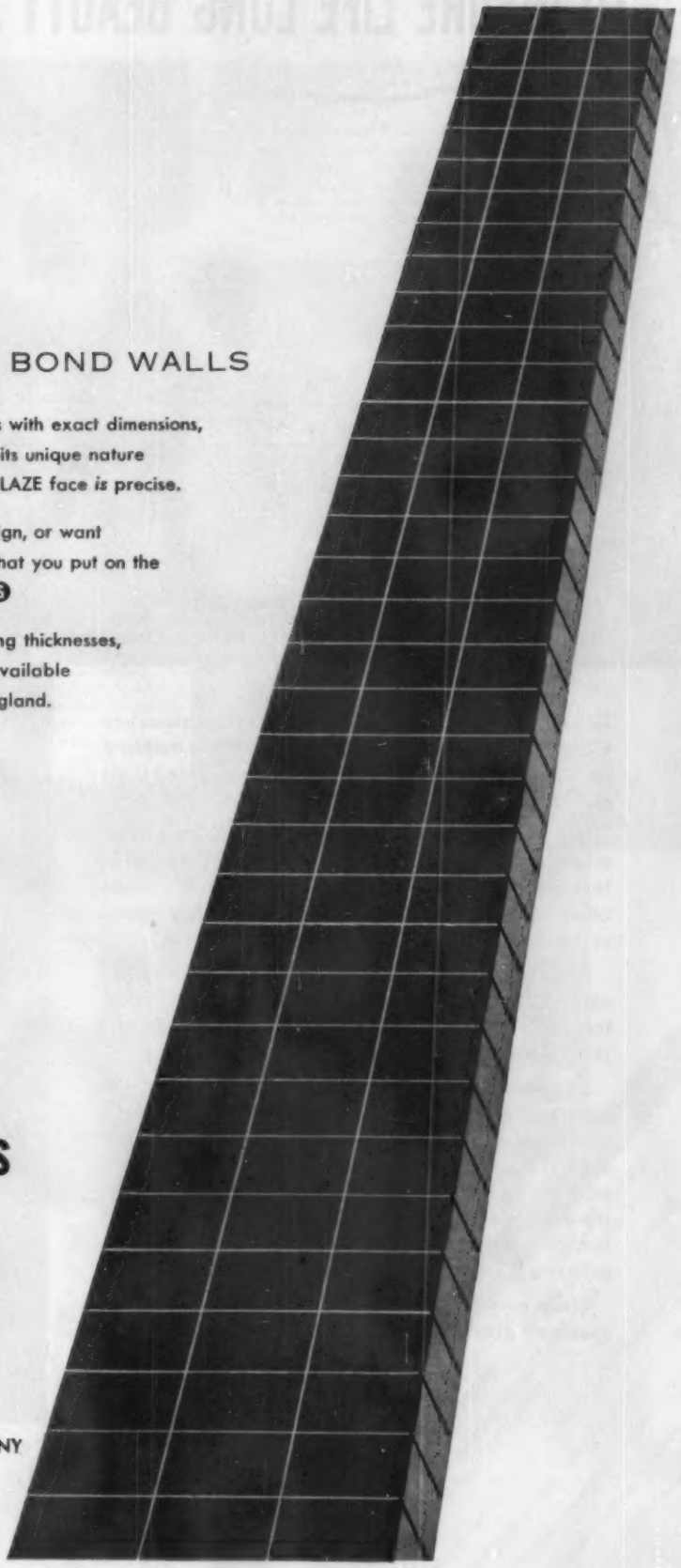
. . . must be built of masonry units with exact dimensions, flat faces and straight edges. By its unique nature of manufacture, each SPECTRA-GLAZE face *is* precise.

If you're leery of stack bond design, or want assurance of seeing in the wall what you put on the board, check SPECTRA-GLAZE. Ⓢ

Wide range of colors, loadbearing thicknesses, exposed block on reverse side. Available coast-to-coast, in Canada and England.

Spectra-Glaze®

glazed structural concrete masonry units



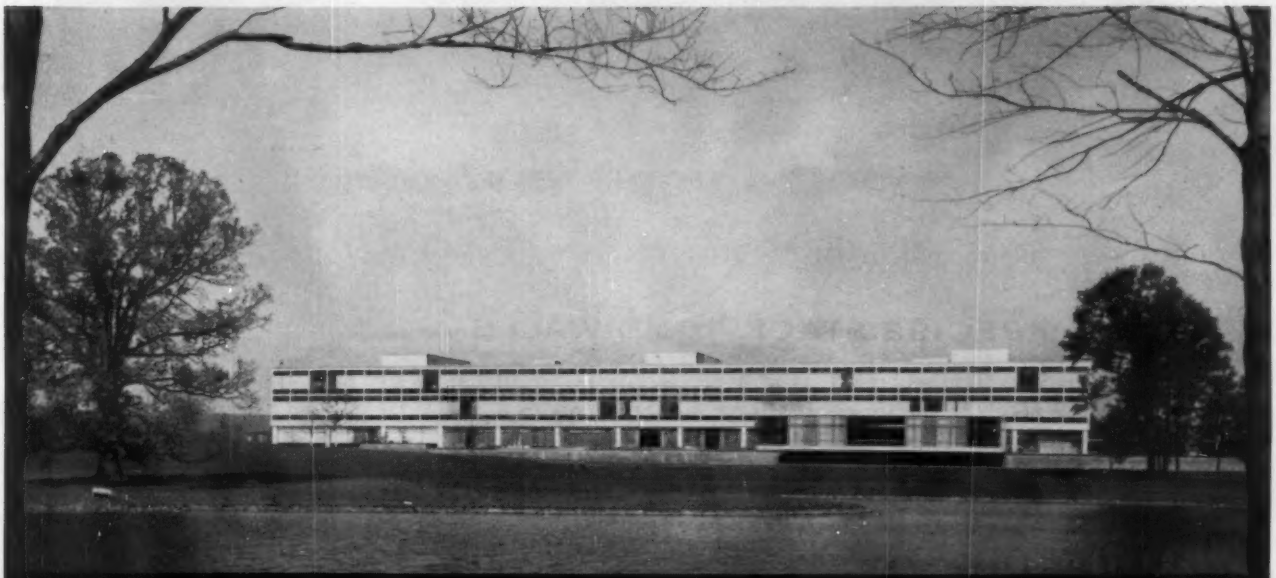
Ⓢ

SEE SWEET'S CATALOG, 4g/Bu for details and names of licensed manufacturers, or write direct:

Spectra-Glaze is a registered trademark and product of

THE BURNS & RUSSELL COMPANY
Bayard & Severn Streets,
Baltimore 30, Md.

WHY CONNECTICUT GENERAL CHOSE STAINLESS STEEL TO INSURE LIFE LONG BEAUTY AND DURABILITY



Home Office Building: Connecticut General Life Insurance Co., Bloomfield, Conn.
Architects: Skidmore, Owings & Merrill Architectural Metal Fabricator: General Bronze Corporation General Contractor: Turner Construction Co.
Engineers: Weiskopf & Pickworth (Structural); Syska & Hennessy, Inc. (Mechanical & Electrical) Consultant: Building Methods & Materials: Walter C. Voss

When the Connecticut General Life Insurance Company planned their ultra-modern office building in suburban Hartford, they carefully projected their needs into the future.

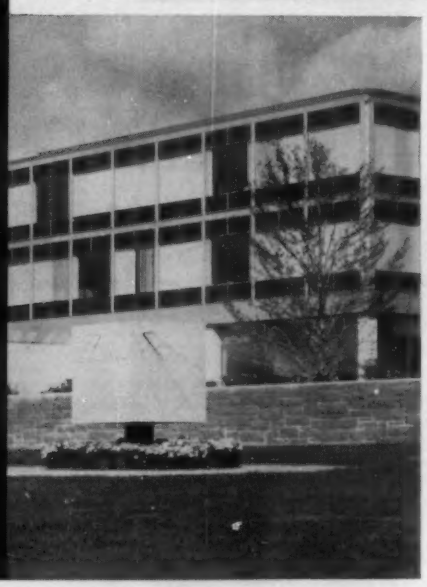
They wanted the nearest thing to "no maintenance" costs for 50 and preferably 75 years. Where initial investment in materials could cut down the yearly costs of cleaning, painting, and repairs they would make the investment.

That's why, throughout the building—both on the exterior and the interior—Republic's ENDURO Stainless Steel is used generously to protect, beautify, and reduce maintenance costs.

The main building—which contains some 400,000 square feet of floor space unbroken by a structural column—is penetrated by four garden courts, 72 feet square, making it possible for nearly all employees to be within 35 feet of a window. The cafeteria juts out from one end of the main building, cantilevered 15 feet over a pool. At the other end of the building, across a glass bridge, is a special department wing.

Once inside the metal and glass walls the stylish gleam of gracious architecture comes alive.

STAINLESS STEEL WINDOW FRAMES on all levels provide permanent beauty and low maintenance. ENDURO Stainless Steel was selected for the frames because of its high resistance to corrosion. It will not discolor with age. Will never need painting. The building's large window walls admit the outdoors and command scenic views of wide lawns, pools, and trees. Complete details and specifications on Republic ENDURO Stainless Steel for architectural applications are contained in Sweet's File, or can be obtained by sending the coupon below.



STAINLESS STEEL ADDS STYLE AND CHEER to the 800-seat dining room. Table and chair supports, column covers, and food-handling equipment of stainless steel assure attractive clean surroundings. All food-preparation and food-service equipment in the kitchen and counter pick-up areas are fabricated of stainless steel for peak sanitation and attractiveness. Dishwashing facilities are stainless steel, too, to resist corrosion and abrasion.

DOORS FRAMED IN STAINLESS STEEL open onto one of the four garden courts that penetrate the main building. Although receiving heavy use, the doors resist scuff, scratches, and dents—thanks to the metal's strength and toughness. Like all the entrance doors, the first level and upper level fixed glass windows are framed in stainless steel to resist corrosion and weathering.

STAINLESS STEEL FOOD-SERVING COUNTER accommodates some 2,000 employees each day. The cafeteria is completely equipped with stainless steel—from refrigerator doors and back walls to steam tables, display cases, and working areas up forward. In the working areas, cleanliness is easy to maintain since everything with which food and dishes come in contact is made of easy-to-clean and keep-clean stainless steel. Republic offers architects competent metallurgical and engineering help in obtaining the best possible results with ENDURO Stainless Steel.

REPUBLIC STEEL

World's Widest Range of Standard Steels and Steel Products

REPUBLIC STEEL

REPUBLIC STEEL CORPORATION • DEPT. AR-5570
1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Please send more information on ☐ ENDURO® Stainless Steel for architectural applications

Name_____ Title_____

Company_____

Address_____

City_____ Zone_____ State_____

Specify **Hillyard** **CEM-SEAL**
for Curing Concrete

550 South Flower Bldg.
Los Angeles, Calif.
Claud Beelman, Architect
Robert E. Bauman Co.
(Concrete Sealing)

*Yet Costs LESS than Building Paper!

Check these Benefits
with the Hillyard
"Maintaineer®" in your area:

1 **Complete Cure —**
CEM-SEAL holds the moisture in new concrete for slow, complete cure, from the bottom up. Safe to apply in any weather when you pour concrete.

2 **Long Wear —**
CEM-SEAL-cured concrete is very hard, dense, and water-tight, especially in the surface layer. It resists spalling, dusting, and disintegrating. Wears extra years without patching or replacement.

3 **Appearance —**
CEM-SEAL seals stains, grease, dirt and moisture out of the floor. Brings floor unblemished through the critical curing period, without need for any other curing or protective agent.

4 **Ends Efflorescence —**
alkaline salts cannot rise above the CEM-SEAL barrier. No dull gray "bloom". No need for acid etching, even before finish treatment.

5 **Easy Maintenance —**
CEM-SEAL fills the pits and voids which form natural dirt traps. Forms a smooth, hard surface which cleans easily, without "drag" on mop or broom.

Ask the Maintaineer to advise on any floor treatment problem, and to act as your "Job Captain". He's your own technical consultant.

"On Your Staff, Not Your Payroll".

CEM-SEAL
goes on fast—with spray or applicator—and that's it! No further labor needed, to rewet, to keep straight, to remove. This initial economy carries on indefinitely, in the form of lowered maintenance time, longer floor wear.

CEM-SEAL
has proved itself for creating greater floor density, watertightness and protection on warehouse, factory, commercial and industrial floors. It is especially valuable for ramps, docks, aprons, other areas that must withstand weather as well as heavy-duty traffic.

FLOOR HILLYARD TREATMENTS

A-2 SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE

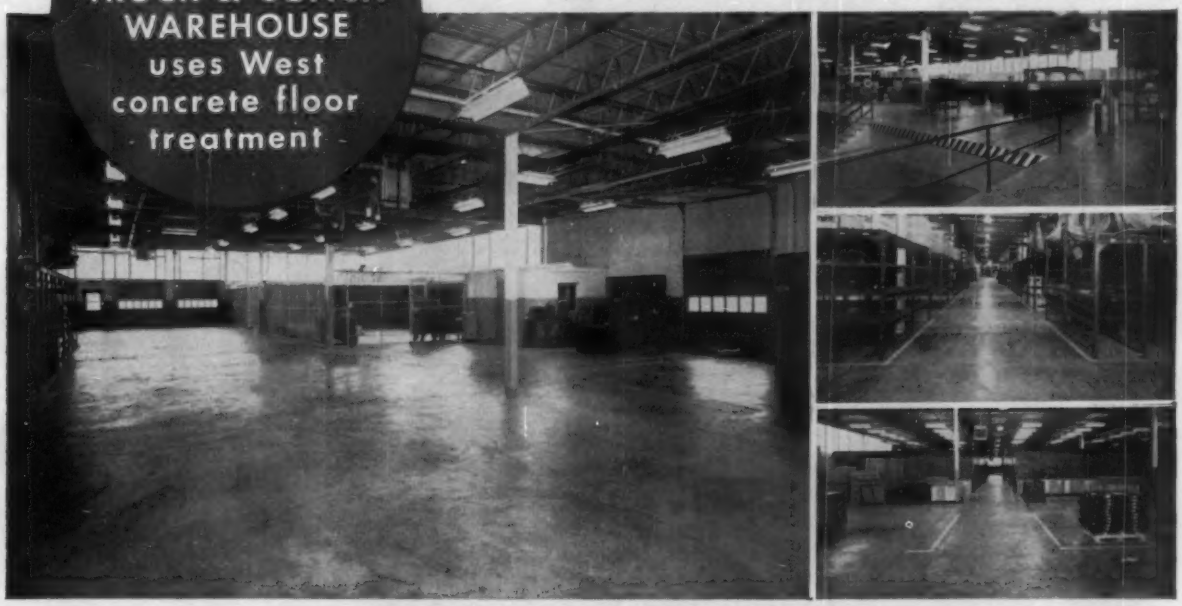
ST. JOSEPH, MO.
U.S.A.
Passaic, N. J.
San Jose, Calif.

Branches and Warehouse Stocks in Principal Cities

Still another GMC TRUCK & COACH WAREHOUSE uses West concrete floor treatment

As in several previous GMC warehouses this **"one application treatment"** is exhibiting exceptionally fine durability to heavy duty service. Plans are to specify WEST Concrete Floor Treatment for all new warehouses — and apply it under the supervision of the WEST Representative.

At GMC Truck and Coach Division parts warehouses construction is under the direction of Mr. John J. Wygzoski, National Field Warehouse Manager, General Motors Truck and Coach Division, General Motors Corporation, Pontiac, Mich.



ONE APPLICATION OF ONE CONCRETE FLOOR TREATMENT

CURES · HARDENS · SEALS CONCRETE SURFACE

WEST Concrete Floor Treatment is a proven time-saving, labor-saving product that 1) Cures 2) Hardens 3) Seals newly-laid concrete surfaces with *one* application. It is a rubber based formulation with a quick drying solvent. Formerly as many as three separate products and applications were needed to obtain the same results.

WEST Concrete Floor Treatment can be applied immediately after horizontal surfaces have been troweled or as soon as the concrete can be walked on. Usually in *one* to *eight* hours. It is applied quickly and easily with a lamb's wool applicator. All the labor formerly required for cleaning the concrete surface after delayed concrete drying, and between the use of as many as three separate products and applications is eliminated.

WEST Concrete Floor Treatment is applied immediately after troweling. Its fast drying permits subsequent building operations to be speeded. It also dustproofs as it seals. This speeds the final cleaning. All foreign matter is easily flushed off the surface.

WEST Concrete Floor Treatment enables newly-laid, wet concrete to retain 95% of its moisture. This permits it to cure and harden while sealing the surface against acids, oils, greases and other foreign matter. This incongruous aspect of holding back most of the moisture while permitting some moisture to escape slowly is the key to this product's amazing success.

WEST Concrete Floor Treatment is colorless and will not alter the color of the poured mix. It goes on evenly and spreads quickly without streaks. One gallon covers from 300-350 sq. ft.

WEST Concrete Floor Treatment is fully attested, fully proven across the United States and Canada. Full details and samples are available immediately from any of WEST's 400 specially trained representatives from coast to coast. Write, phone or wire your nearest WEST office.

ALBANY, N. Y.
ALBUQUERQUE, N. M.
ATLANTA, GA.
BALTIMORE, MD.
BIRMINGHAM, ALA.
BOSTON, MASS.
BUFFALO, N. Y.
CHICAGO, ILL.
CINCINNATI, OHIO
CLEVELAND, OHIO
DALLAS, TEXAS
DENVER, COLO.
DES MOINES, IOWA
DETROIT, MICH.
FT. WORTH, TEXAS
FRESNO, CALIF.
HARTFORD, CONN.
HOUSTON, TEXAS
INDIANAPOLIS, IND.
KANSAS CITY, MO.
LOS ANGELES, CALIF.
MEMPHIS, TENN.
MILWAUKEE, WIS.
NEWARK, N. J.
NEW ORLEANS, LA.
OAKLAND, CALIF.
OKLAHOMA CITY, OKLA.
OMAHA, NEBR.
PHILADELPHIA, PA.
PHOENIX, ARIZ.
PITTSBURGH, PA.
PORTLAND, ORE.
PROVIDENCE, R. I.
RENO, NEVADA
RICHMOND, VA.
ROCHESTER, N. Y.
ST. LOUIS, MO.
ST. PAUL, MINN.
SACRAMENTO, CALIF.
SALT LAKE CITY, UTAH
SAN ANTONIO, TEXAS
SAN DIEGO, CALIF.
SAN FRANCISCO, CALIF.
SAN JOSE, CALIF.
SEATTLE, WASH.
SPOKANE, WASH.
STOCKTON, CALIF.
SYRACUSE, N. Y.
TULSA, OKLA.
WASHINGTON, D. C.
YORK, PA.

CANADA

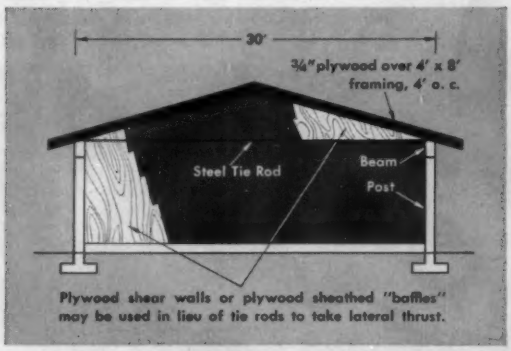
CALGARY, ALTA.
EDMONTON, ALTA.
HALIFAX, N. S.
MONTREAL, QUE.
REGINA, SASK.
SASKATOON, SASK.
TORONTO, ONT.
VANCOUVER, B. C.
WINNIPEG, MAN.

WEST CHEMICAL PRODUCTS INC.

WEST CHEMICAL PRODUCTS INC.
42-16 West Street, Long Island City 1, N. Y.

24

new approaches to structural design with fir plywood


30'
¾" plywood over 4' x 8' framing, 4' o. c.
Steel Tie Rod
Beam
Post
Plywood shear walls or plywood sheathed "baffles" may be used in lieu of tie rods to take lateral thrust.

Tilted roof planes (each a rigid plywood diaphragm) provide mutual support at ridge, permit long, clear spans. Diaphragm action transfers horizontal thrust to steel ties or fir plywood end walls.

FIR PLYWOOD

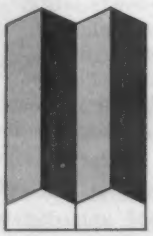
TENT-SHAPED ROOF UNITS

ARCHITECTS AND ENGINEERS:
John Lyon Reid & Partners, San Francisco, Calif.
Partners in Charge: William A. Gillis, A. I. A., and Dr. Alexander Tarics, Structural Engineer

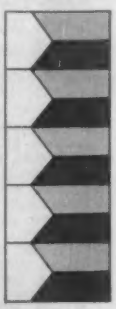
THIS folded plate plywood roof system developed for an expandable community school offers a straightforward solution to the problem of obtaining a high degree of design flexibility at low cost.

The basic tent-shaped canopy units may be placed separately or combined in series or rows to cover any given area. With supports needed only at wide intervals, walls and partitions may be arranged or re-arranged as needed.

Structurally, the system relies on the outstanding diaphragm strength of the plywood sheathing. The roof planes—each a rigid plywood diaphragm—are inclined to form a giant inverted "V" beam, eliminating posts or trusses normally required for support under the ridge. Because the roof is self-supporting at the center, rafter spans can be nearly doubled, e.g., up to 50 feet with 4 x 14's on four foot centers. Diaphragm action also permits ties and supporting columns to be placed at wide intervals.



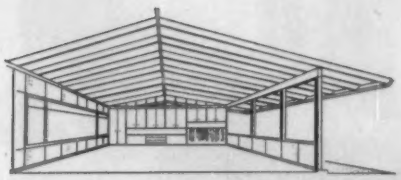
Basic units can be arranged in series or rows as needed



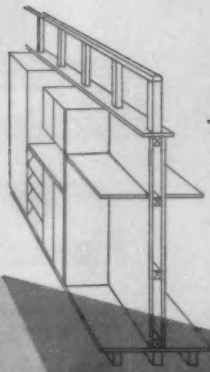
ONE OF A SERIES FROM "SCHOOLS OF THE FUTURE"

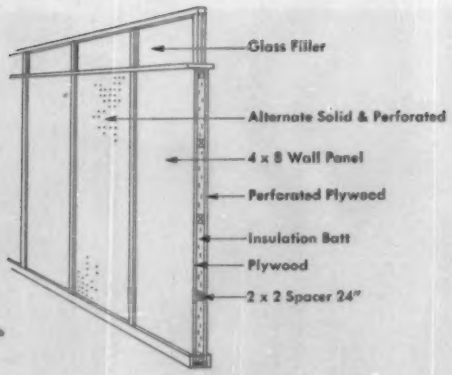
. . . a portfolio collection of outstanding designs by six leading architectural firms. Material includes details on folded plate roof system shown above. For free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Wash.

Also write for information about design and engineering consultation services.



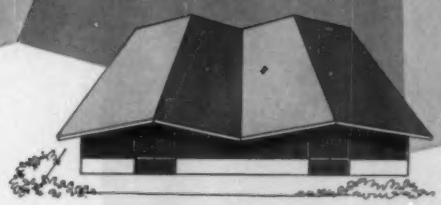
The interior may be left open for classroom uses
. . . or divided into smaller areas by movable partitions



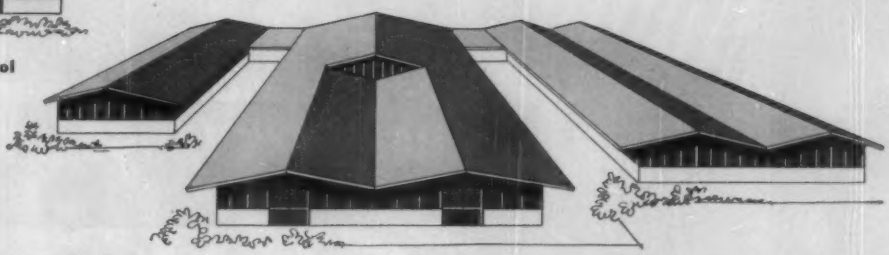


FOLDED PLATE ROOF

PROVIDE MAXIMUM FLEXIBILITY FOR AN EXPANDABLE SCHOOL



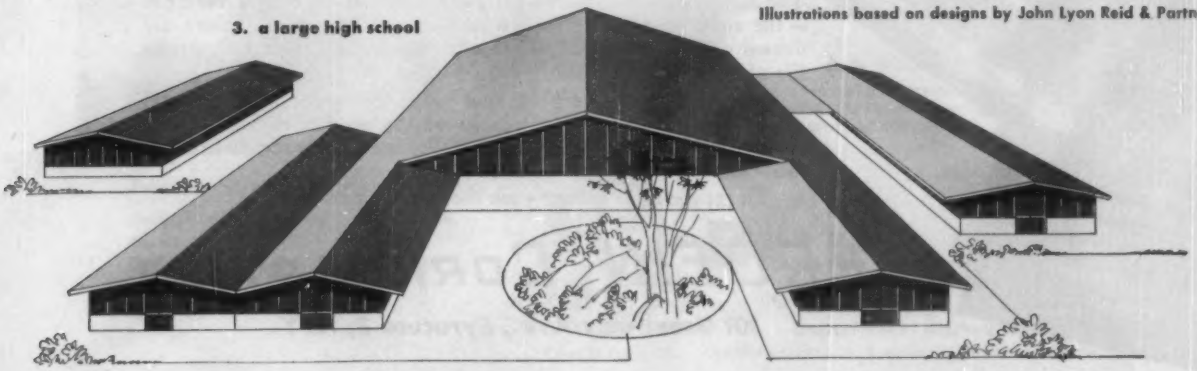
1. a small elementary school



Units can be added as needed

Illustrations based on designs by John Lyon Reid & Partners

3. a large high school



Heating?

Cooling?

Air Conditioning?

Process?

Here's How to Get the RIGHT Answer to your HEAT-EXCHANGE PROBLEMS

The right ratio of surfaces – the right materials – the right velocities – the right proportion between coil area and depth . . . there are dozens of factors that affect the efficiency, maintenance and service life of heat-exchange coils.

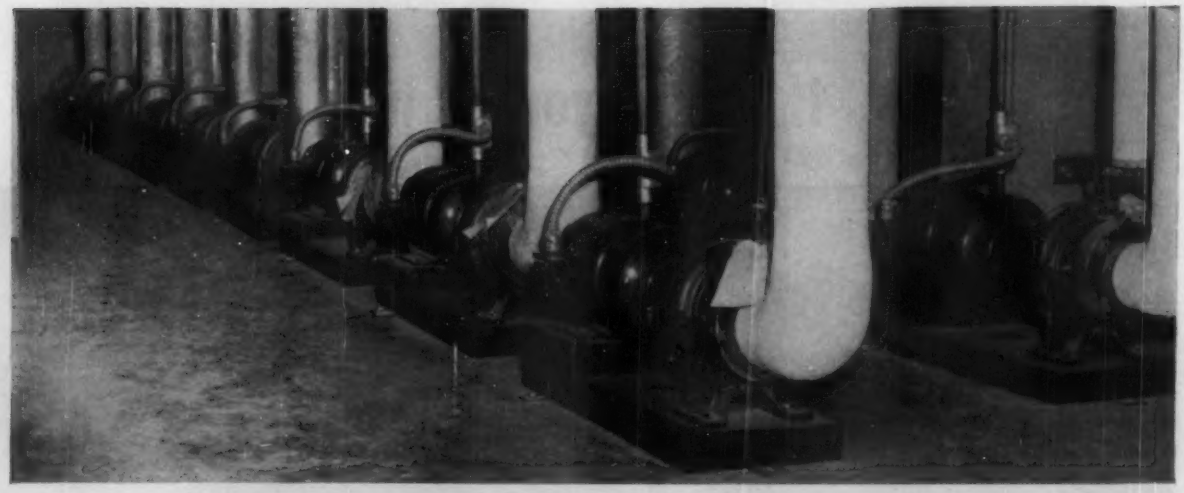
For best performance in your own application, the practical approach is to take full advantage of the unequalled engineering, research and design skill – the unequalled manufacturing and testing facilities – which Aerofin offers you.

To get the *right* answer – ask the Aerofin man.

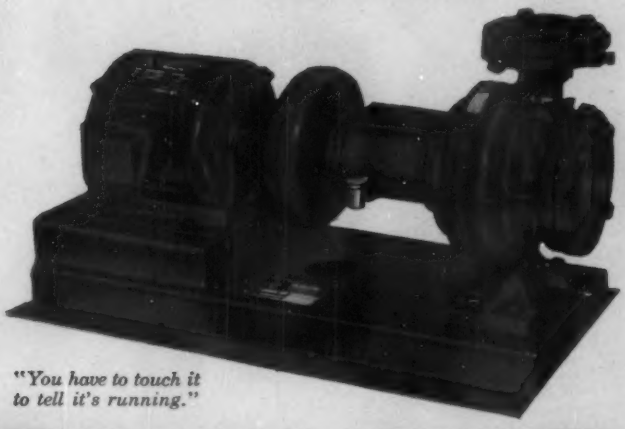
Aerofin is sold only by manufacturers of nationally advertised fan system apparatus. List on request.

AEROFIN CORPORATION

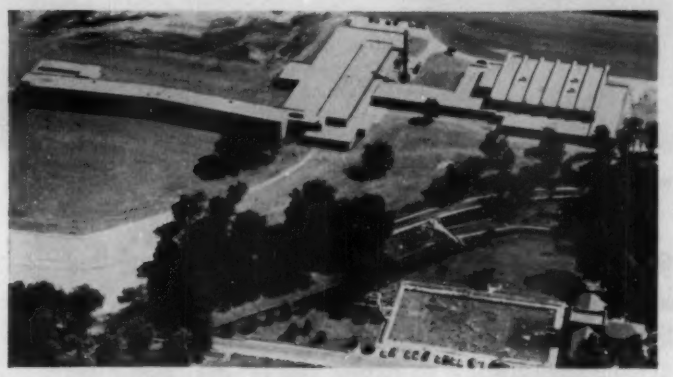
101 Greenway Ave., Syracuse 3, N. Y.



EIGHTEEN B&G UNIVERSAL PUMPS DELIVER Quiet HEAT



"You have to touch it to tell it's running."



Parkview High School, Springfield, Mo.

Architect: Richard P. Stahl, Springfield, Mo.
Engineer: R. W. Bare, Springfield, Mo.
Contractor: McCarty Co., Springfield, Mo.

Selecting a pump for a circulated water heating or cooling system is not merely a matter of proper head and capacity. *Quiet, vibrationless operation is of major importance!*

In the modern school shown here, eighteen B&G Universal Pumps deliver heat without distracting noise. These pumps are designed specifically for heating system use... built to perform dependably and *silently*. No vibration eliminators or flexible connections to the piping are needed.

Universal Pump motors, for example, are specially constructed and selected for *extra-quiet* operation. Long *sleeve* bearings are used in both motor and pump—another assurance of smooth, vibrationless operation and long life of both pump and motor. The oversized shaft is made of special alloy steel with an integral, heat-treated thrust collar to absorb end-thrust. Water leakage is prevented by the diamond-hard "Remite" mechanical seal...a B&G development.

Note, too, that *vertical* split case construction with removable bearing frame permits easy servicing without breaking pipe connections or motor leads.

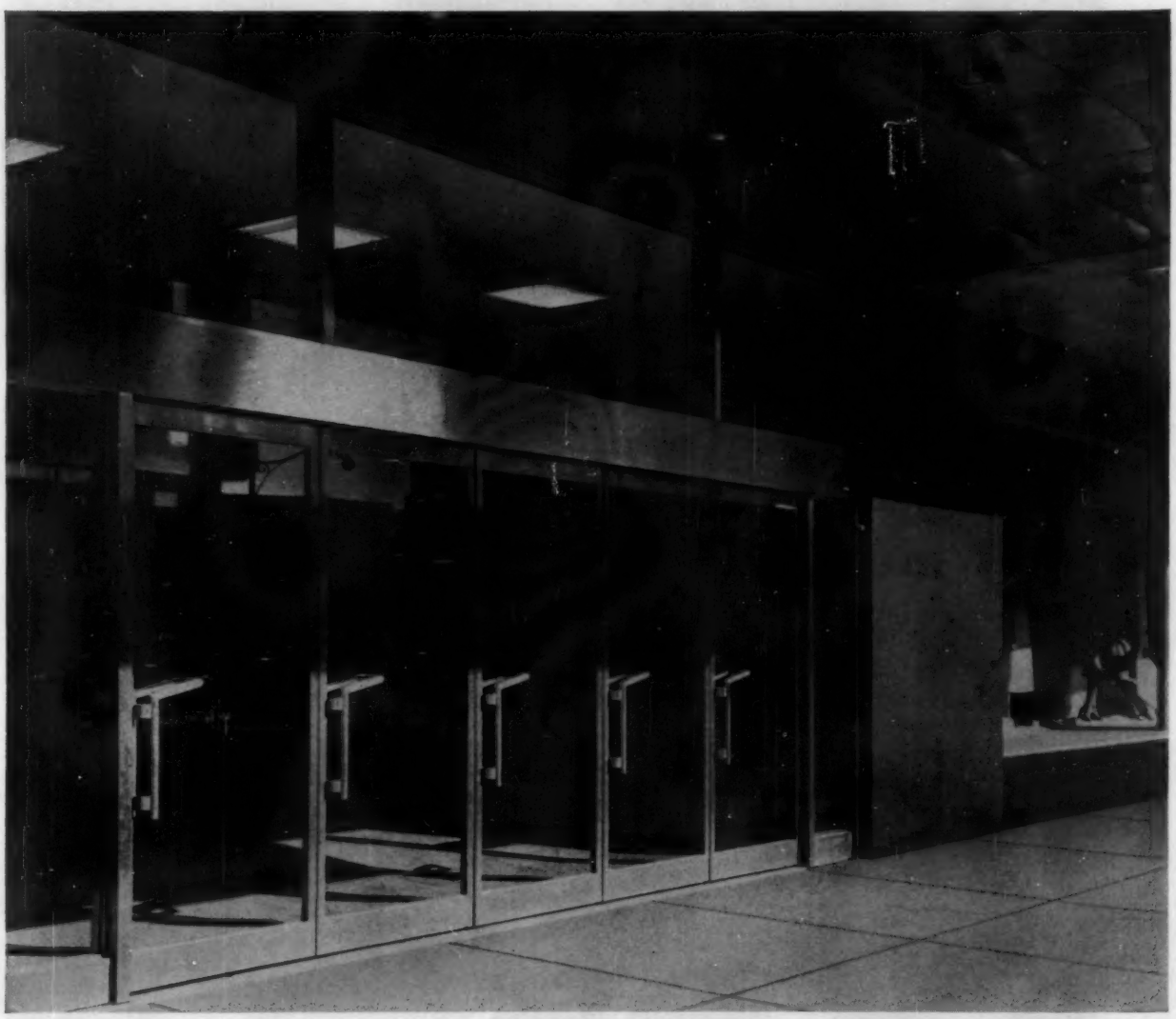
B&G BOOSTER
An in-line pump of smaller capacities than the B&G Universal, but with the same features which assure quiet operation.

BELL & GOSSETT
COMPANY
Dept. FM-32, Morton Grove, Illinois

Reg. U.S. Pat. Off.

Canadian Licensee: S. A. Armstrong Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

How are you at judging ages?



Lit Brothers Department Store, Camden, N.J.; Architect: Thalheimer & Weitz, Philadelphia, Pa.; Doors fabricated by: George R. Habgood Company, Philadelphia, Pa.

Stainless Steel doors will often outlast the building itself. A thousand shoes a day can kick a Stainless Steel frame but it will stay tight and rigid because (1) the steel itself is so strong and (2) Stainless Steel can be *welded* into solid joints that can't work loose. It's almost impossible to dent or scratch it unless you use a steel tool. Even then you couldn't chip or peel away the shine on a Stainless Steel door because

Look at the unretouched pictures of these Stainless Steel doors. One set is 21 years old, the other is 3 years old. They've received no maintenance except for an occasional washing. Truly, they all look brand new, but the doors on the right were installed back in 1937!

Hess Brothers Department Store, Allentown, Pa.; Architect: Thalheimer & Weitz, Philadelphia, Pa.; Doors fabricated by: John G. Leise Metal Works, Philadelphia, Pa.

it's solid—the shine is as thick as the door itself. Floor cleansers or sidewalk dirt won't hurt it because Stainless Steel resists corrosion. That's why you never have to polish Stainless . . . just wash it off with water and it gleams.

A Stainless Steel door costs a little bit more, but how else could you have such an attractive doorway for so long—*and only pay for it once.*

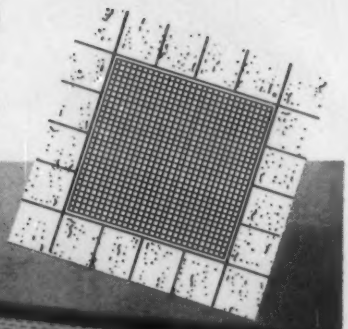
USS is a registered trademark

United States Steel Corporation—Pittsburgh
American Steel & Wire—Cleveland
National Tube—Pittsburgh
Columbia-Geneva Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
United States Steel Export Company

United States Steel

USS

Restaurant chooses NEO-RAY LOUVRED CEILING ...within a ceiling*



Restaurant, Edward Malley Dept. Store, New Haven,Conn.
Designer: Edward T. Wassell, Wilkes Barre, Penn.

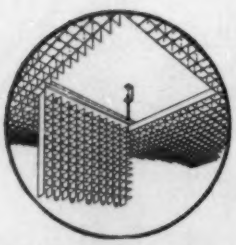
...adds superior appearance...highly functional

* Gentlemen:

.....we chose the Neo-Ray ceiling to conceal all piping, duct work, wiring, etc.

.....we used a standard acoustical tile on the dropped portions, and the Neo-Ray on the larger higher central areas. We are very pleased with the effect.

Very truly yours,



See our catalog in Sweet's Architectural File sec. 32a NE

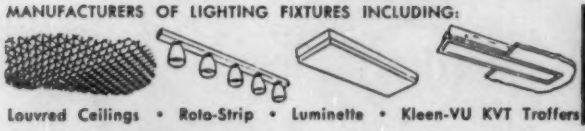
SPECIAL LOUVRE DESIGNS?

Neo-Ray is recognized as the pioneer in the development and manufacture of louvred ceilings . . . with years of louvred ceiling experience. Let the "know-how" of our engineering department assist you. No obligation, of course.

Send for LOUVRED CEILING catalog No. 544 and ACOUSTI-LITE catalog No. 557

IN THE SOUTH
See Our Permanent Display At
ARCHITECTS & ENGINEERS INSTITUTE
230 Spring St., Atlanta, Ga.

MANUFACTURERS OF LIGHTING FIXTURES INCLUDING:



Louvred Ceilings • Rota-Strip • Luminette • Kleen-VU KVT Troffers

NEO-RAY PRODUCTS, Inc.
315 East 22nd St. • New York 10, N. Y.

THONET PRESENTS

THE ACADEMY CHAIR

Designed by Walter Dorwin Teague Associates for the United States Air Force Academy
Manufactured by THONET INDUSTRIES, INC.
SHOWROOMS: New York, Chicago, Detroit, San Francisco, Los Angeles, Dallas, Miami, Statesville, N. C., Paris
*Architects—Walquist, Grange & Morris

WRITE FOR ILLUSTRATED MATERIAL. THONET INDUST[illegible] INC., DEPT. A ONE PARK AVENUE, NEW YORK 16, N.Y.

James and Harriss, a.i.a. design a

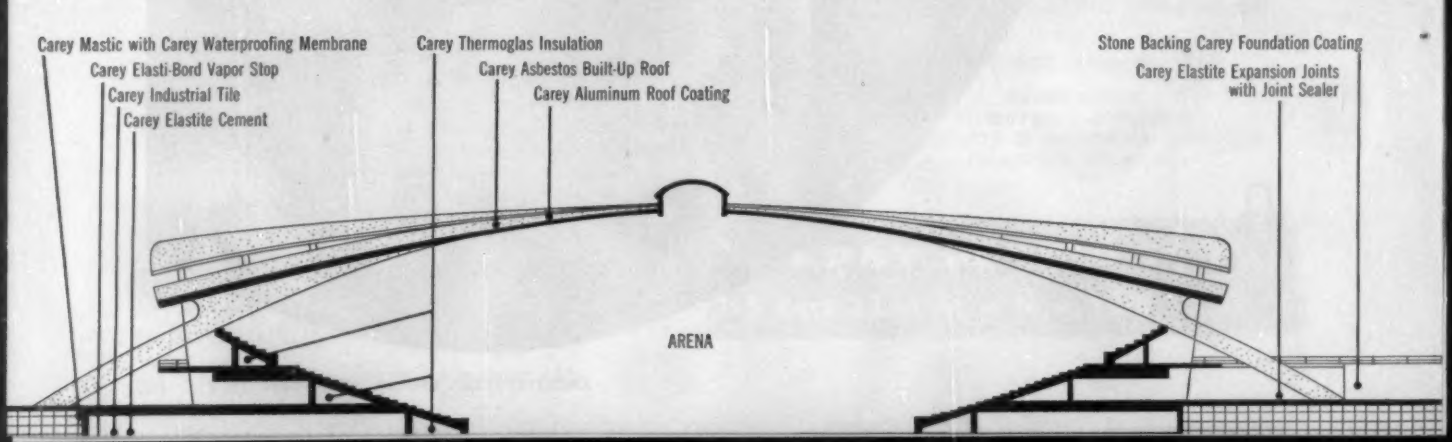
sports and civic center

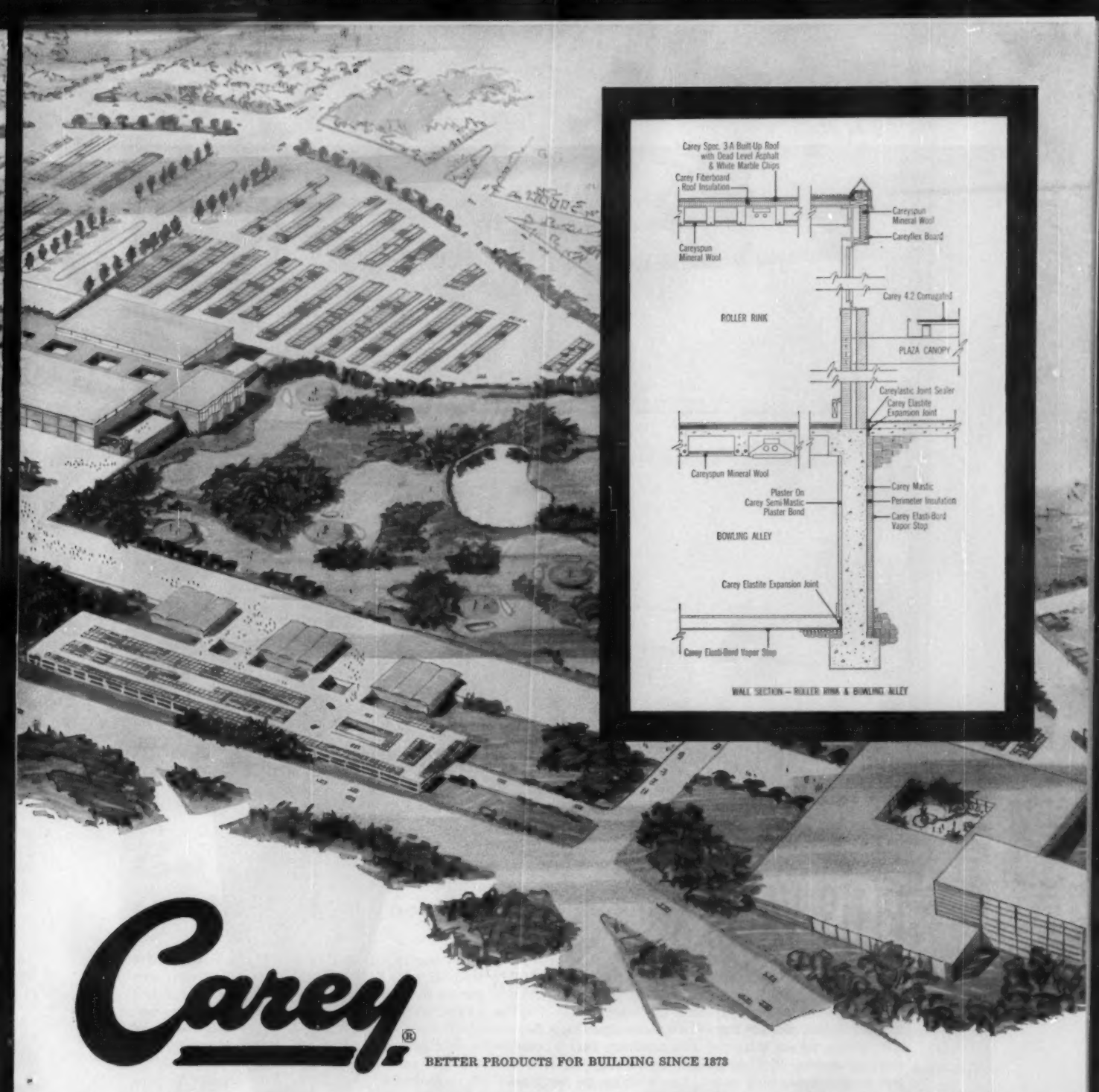
The growth of public interest in urban re-development, and of public willingness to accept the financial burdens involved, will be advanced by projects which have as their objective the greatest potential for public participation.

This SPORTS AND CIVIC CENTER is the kind of project which fulfills that objective by providing recreational and cultural opportunities for the entire community. Architects James & Harriss conceived this center as the focal project in a major urban re-development program.

The master renewal plan for the city of Atlanta, Georgia, provided the architects with a choice of sites. The center was planned on one of these as a design project, commissioned by The Philip Carey Mfg. Company.

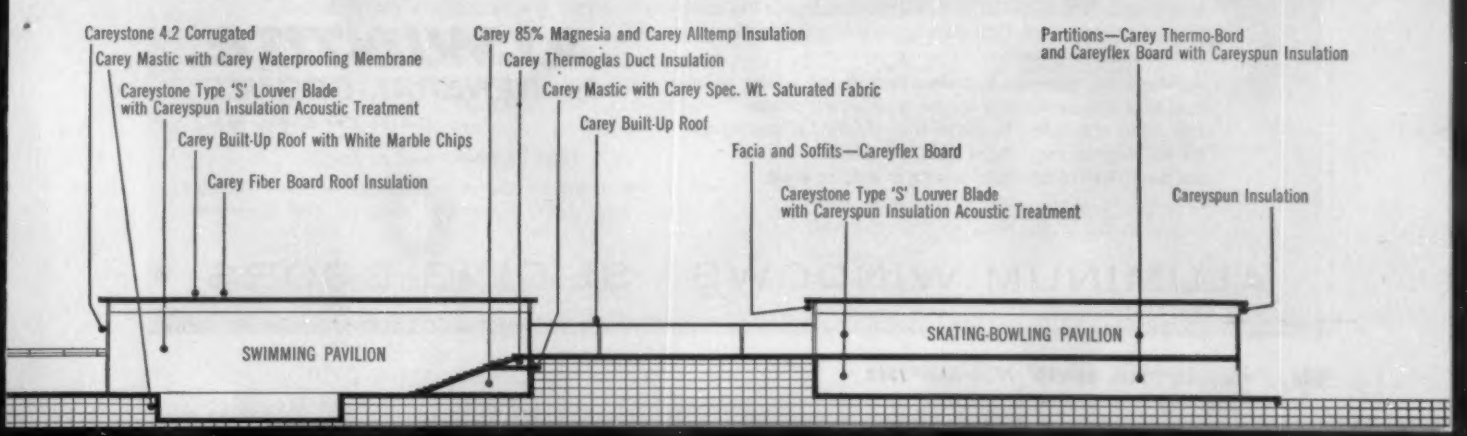
In the execution of their commission Messrs. James & Harriss utilized a number of Carey Building Products. Plan and detail sheets are available to architects and builders who may be interested in their design and application technique. Ask your Carey representative or write The Philip Carey Mfg. Company, Lockland, Cincinnati 15, Ohio. Dept. 1153

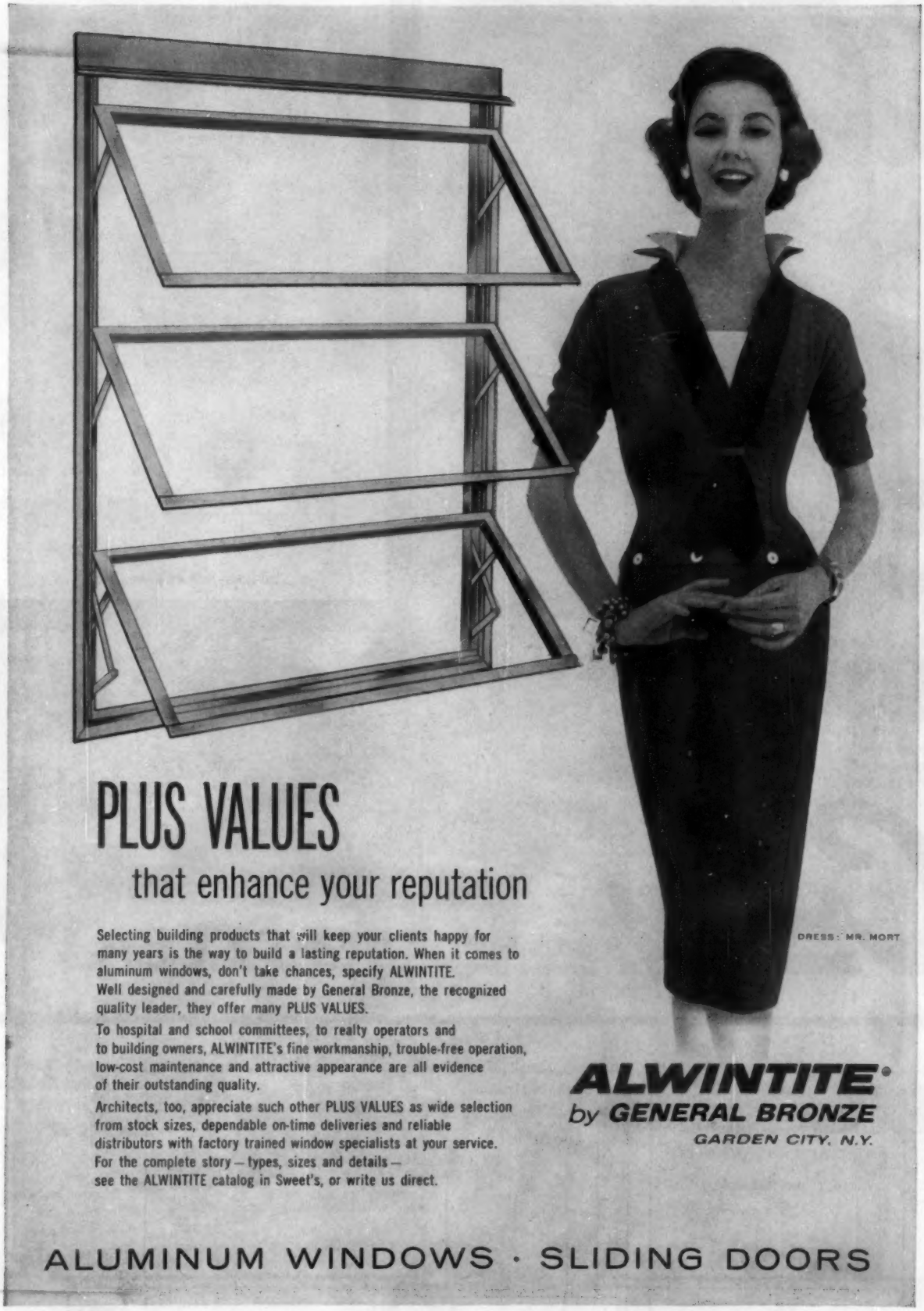

Carey Mastic with Carey Waterproofing Membrane
Carey Elasti-Bord Vapor Stop
Carey Industrial Tile
Carey Elastite Cement
Carey Thermoglas Insulation
Carey Asbestos Built-Up Roof
Carey Aluminum Roof Coating
Stone Backing Carey Foundation Coating
Carey Elastite Expansion Joints with Joint Sealer
ARENA



Carey®

BETTER PRODUCTS FOR BUILDING SINCE 1873


Careystone 4.2 Corrugated
Carey Mastic with Carey Waterproofing Membrane
Careystone Type 'S' Louver Blade with Careyspun Insulation Acoustic Treatment
Carey Built-Up Roof with White Marble Chips
Carey Fiber Board Roof Insulation
SWIMMING PAVILION
Carey 85% Magnesia and Carey Alltemp Insulation
Carey Thermoglas Duct Insulation
Carey Mastic with Carey Spec. Wt. Saturated Fabric
Carey Built-Up Roof
Facia and Soffits—Careyflex Board
Careystone Type 'S' Louver Blade with Careyspun Insulation Acoustic Treatment
SKATING-BOWLING PAVILION
Partitions—Carey Thermo-Bord and Careyflex Board with Careyspun Insulation
Careyspun Insulation


PLUS VALUES
that enhance your reputation
Selecting building products that will keep your clients happy for many years is the way to build a lasting reputation. When it comes to aluminum windows, don't take chances, specify ALWINTITE. Well designed and carefully made by General Bronze, the recognized quality leader, they offer many PLUS VALUES.
To hospital and school committees, to realty operators and to building owners, ALWINTITE's fine workmanship, trouble-free operation, low-cost maintenance and attractive appearance are all evidence of their outstanding quality.
Architects, too, appreciate such other PLUS VALUES as wide selection from stock sizes, dependable on-time deliveries and reliable distributors with factory trained window specialists at your service. For the complete story—types, sizes and details—see the ALWINTITE catalog in Sweet's, or write us direct.
DRESS: MR. MORT
ALWINTITE®
by GENERAL BRONZE
GARDEN CITY, N.Y.
ALUMINUM WINDOWS · SLIDING DOORS

Coal gets high mark for low cost

Coal at Teachers College costs ⅓ less than competitive fuel

When State University Teachers College moved to its new campus in Potsdam, N. Y., the Department of Public Works had the job of planning the college's heating and steam facilities. The fuel chosen was coal . . . and today coal is burned throughout the academic year in modern equipment, for efficient, automatic performance. The outstanding feature of this plant is its ease of operation . . . and an outstanding advantage of coal is its low cost—⅓ *less* per million Btu than the competitive fuel in this area!

Consult an Engineering Firm

If you are remodeling or building new power facilities, consult a qualified engineering firm. Such concerns—familiar with the latest in fuel costs and equipment—will effect great savings for you in efficiency and fuel economy over the years.

Coal is lowest-cost fuel

Today comparison studies prove bituminous coal is the lowest-cost fuel in most industrial areas. And modern coal-burning equipment gives you 15% to 50% *more* steam per dollar, while automatic operation trims labor costs and eliminates smoke problems. What's more, tremendous coal reserves and mechanized mining procedures assure you a constantly plentiful supply of coal at stable prices.

For literature or technical advisory service, send coupon below.

BITUMINOUS COAL INSTITUTE

Dept. AR-11, Southern Building, Washington 5, D. C.

SEND COUPON FOR NEW "Guide Specifications for Underfeed Stoker Fired Low-Pressure Heating Plants." Heavy demand for the first edition of this booklet, adaptable for design loads 3,000 to 26,000 EDR steam, has justified an expanded edition covering application of underfeed stokers to firetube, watertube and sectional cast iron boilers. Complete specifications criteria cover all aspects of typical heating plant.

Gentlemen: Please send me: AR-11

☐ Guide Specifications Booklet ☐ Case histories on larger plants

☐ I am interested in your advisory service

Name_____

Title_____

Company_____

Address_____

City_____ Zone_____ State_____

The White Castle Office Building before it was remodeled with Stainless and porcelain-enameled steel.

This building is 38 years old

Time creeps up on some buildings. This one was erected in 1920, and it showed every bit of its age. But last year, they remodeled it by covering the entire front with a Stainless Steel grid and porcelain-enameled steel panels. Look at the difference!

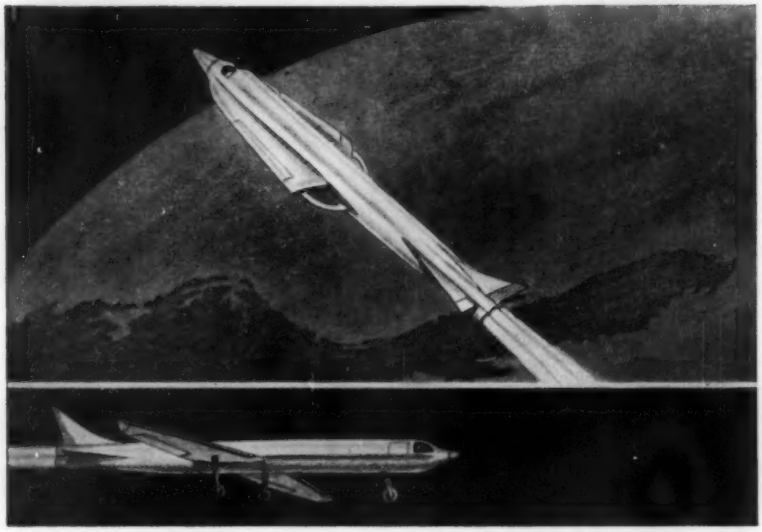
Now the owner can forget about the years because the Stainless and porcelain-enameled steel will always look bright and new. The mullions are Stainless Steel. They won't peel, chip, or crack. They resist corrosion. The panels will never fade or discolor because the porcelain enamel is fused onto the steel at high temperature. It makes a glass-like surface. There are no pores. Dirt and moisture can't seep in. In fact, rainfall helps preserve the brand-new look of the panels because it washes away dirt. This is one wall that will never have to be painted, scraped, pointed, or resurfaced. Think of the savings in maintenance.

For more information about walls of steel, write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pa. *USS is a registered trademark*

White Castle System, Inc.; General Offices, Columbus, Ohio
Architect: Van Buren, Ayers & Blackburn, Columbus, Ohio
Panel Fabricator: Davidson Enamel Products, Inc., Lima, Ohio
Curtain Wall Fabricator: Michaels Art Bronze Co., Covington, Kentucky

USS **United States Steel**

MARS outstanding design **SERIES**

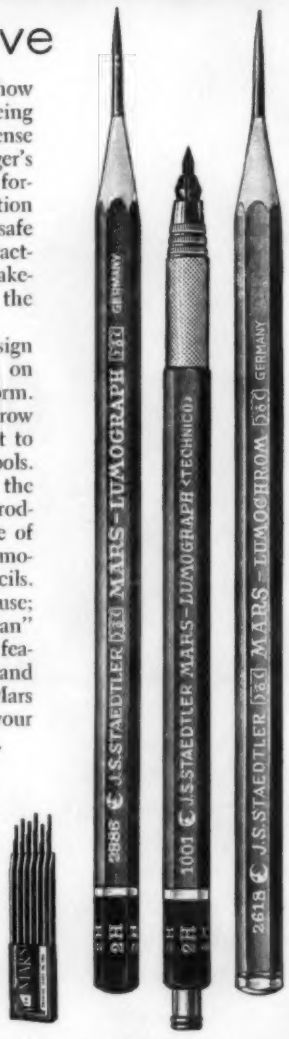


brings 'em back alive

Today's burning problem in space flight is how to ease a rocket safely back to earth, without being consumed by the metal-melting friction of our dense atmosphere. Design Engineer Carl J. Rauschenberger's ingenious suggestion is a pair of wings, locked forward at blast-off, later folded back into flying position (insert) by hydraulic cylinder controls for a slow, safe descent. Mr. Rauschenberger also envisions a retractable glass nose cone, heatproof to withstand the take-off, drawn back to admit air to a jet engine on the return flight.

This outstanding solution to a timely design problem may already exist in working drawings on somebody's drafting board, or even in mock-up form. But whether a project is developed today, tomorrow or the year after next, it will always be important to shape ideas into realities with the best of drafting tools.

In pencils, of course, that means Mars, long the standard of professionals. Some outstanding new products have recently been added to the famous line of Mars-Technico push-button holders and leads, Lumograph pencils, and Tradition-Aquarell painting pencils. These include the Mars Pocket-Technico for field use; the efficient Mars lead sharpener and "Draftsman" pencil sharpener with the adjustable point-length feature; Mars Lumochrom, the color-drafting pencils and leads that make color-coding possible; the new Mars Non-Print pencils and leads that "drop out" your notes and sketches when drawings are reproduced.


2886 J.S.STAEDTLER MARS-LUMOGRAPH GERMANY
1001 J.S.STAEDTLER MARS-LUMOGRAPH TECHNICO
2618 J.S.STAEDTLER MARS-LUMOCHROM GERMANY

The 2886 Mars-Lumograph drawing pencil, 19 degrees, EXEXB to 9H. The 1001 Mars-Technico push-button lead holder. 1904 Mars-Lumograph imported leads, 18 degrees, EXB to 9H. Mars-Lumochrom color-drafting pencil, 24 colors.

J.S. STAEDTLER, INC.
HACKENSACK, NEW JERSEY

at all good engineering and drawing material suppliers

3rd MARS Design Contest

HACKENSACK, N. J. – The MARS Outstanding Design Contests have uncovered numerous interesting designs which might otherwise never have been brought before technical audiences. They have attracted such wide interest that MARS Pencils is sponsoring another contest in 1959.

Carl J. Rauschenberger, Anaheim, Calif., one of the winners in the 1958 MARS Contest. Mr. Rauschenberger's project, "Brings 'em Back Alive," is featured in the MARS presentaiton on this page.

If you are an engineer, architect or student, the MARS contest offers you a "showcase." It provides you with a valuable opportunity to have projects you designed shown in leading magazines where they will be seen by the men in your profession.

$100 Awards

Send in your designs. Every winner will receive $100; winning entries will be reproduced in the wide list of technical publications in which the MARS Outstanding Design Series appears. There are no strings attached. You will be given full credit. All future rights to the design remain with you. You can reproduce it later wherever you like and sell or dispose of it as you wish.

The subject can be almost anything – aviation, space travel, autos, trains, buildings, engineering structures, household items, tools, machines, business equipment, etc. Projects will be selected on the basis of appeal to design-minded readers, broad interest, attractive presentation. Do not submit a design that is in production. The project, in fact, does not need to have been planned for actual execution. It should, however, be either feasible at present or a logical extension of current trends. It cannot be unrealistic or involve purely hypothetical alterations of natural laws.

The sooner you send in your entry, the greater the chance of its selection.

It is Simple To Submit a Design For Mars Outstanding Design Series

Just mail in an inexpensive photostat or photocopy of the subject – one you can spare, since it cannot be returned – and a brief description.

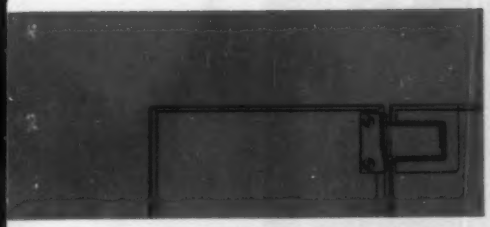
If your entry is accepted, we will ask for a clear illustration of your design in order to prepare a sharp rendering, or photograph suitable for reproduction. Your material will then be returned to you.

Send your entry to:

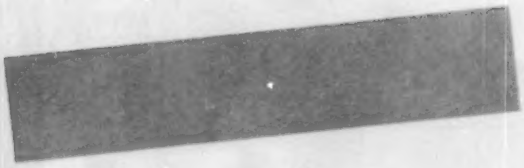
J.S. STAEDTLER, INC.
Hackensack, New Jersey

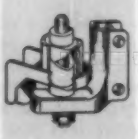
"WEIS WAS WISER!"

Architects, building owners and tenants become fully aware of WEIS toilet compartment advantages the second or third year after installation. That's when their original choice is confirmed, when they can say with firm conviction, "Our choice of WEIS was wiser!"



FLUSH UPPER HINGE—Newly designed so cover is flush with both faces of door. Door is supported both above and below hinge recess. Bearing is nylon, needs no lubrication.





CONCEALED LOWER HINGE—A gravity-type with nylon cams, this new Weistyle hinge never needs lubrication. Pintle is stainless steel.

DOUBLE-LOCKED CONSTRUCTION—Doors, stiles and partitions are now ingeniously double-joined to provide extra sturdiness and long trouble-free life.

WEIS *Vitre-Steel* toilet compartments have the features and construction advantages that make them the standard of comparison where extreme durability and long-lasting good appearance are important. Finished inside and out in vitreous porcelain enamel (fired, not baked), Weis compartments are not subject to breakage and staining. Nor do they present costly installation problems. Available in wide choice of colors . . . both floor-braced and ceiling-hung designs. See Sweet's Architectural File, No. 22b/We—or write for complete information.

Henry Weis Manufacturing Company, Dept. H-1911, Elkhart, Indiana

Weis Vitre-Steel compartments have been selected for prominent buildings designed by the following architects: McGuire & Shook, Indianapolis, Indiana; Wedemeyer & Hecker, St. Louis, Missouri; Raymond H. Weeks, Inc., Durham, North Carolina; Clyde Hufbauer, San Diego, California; Preston M. Geren, Fort Worth, Texas; Broad, Nelson & Corgan, Dallas, Texas; Mies Van de Rohe-Phillip Johnson-Kahn & Jacobs, New York.

WEIS
VITRE-STEEL
PORCELAIN ENAMEL
TOILET COMPARTMENTS

Put Your Curtain-Wall Requirements in **EXPERIENCED HANDS . . .**

THESE FOUR CATALOGS show how Bayley can work with you on both steel or aluminum windows and curtain wall systems for buildings of all types. Copies will be gladly sent on request—or see Sweet's Architectural and Industrial Construction Files.

On every point of window and curtain-wall function, Bayley systems give you maximum effectiveness . . . cost-saving, trouble-free erection . . . unusual design latitude without the extra cost and delay of fully "customized" fabrication.

And there's an *exclusive* Bayley feature of even greater importance: the *extra services* you can count on when you place your window-wall problems in Bayley's skilled and capable hands.

You are invited to counsel with Bayley engineers from the first moment windows or curtain walls enter into your planning picture. The earlier you do so, the sooner you get helpful information on what today's foremost curtain-wall specialists have learned to provide for—and to avoid.

These extra services encompass the *follow-through* responsibility Bayley assures for every job on which Bayley products are used—right through to building occupancy.

There's a BAYLEY representative in your immediate area at your service. Call him in today.

BAYLEY

Steel and Aluminum **Windows and Curtain Walls**

The **WILLIAM BAYLEY Co.**
Springfield, Ohio

District Sales Offices:
Springfield • Chicago 2 • New York 17 • Washington 16

ORIGINATORS • DESIGNERS • MANUFACTURERS • INSTALLERS

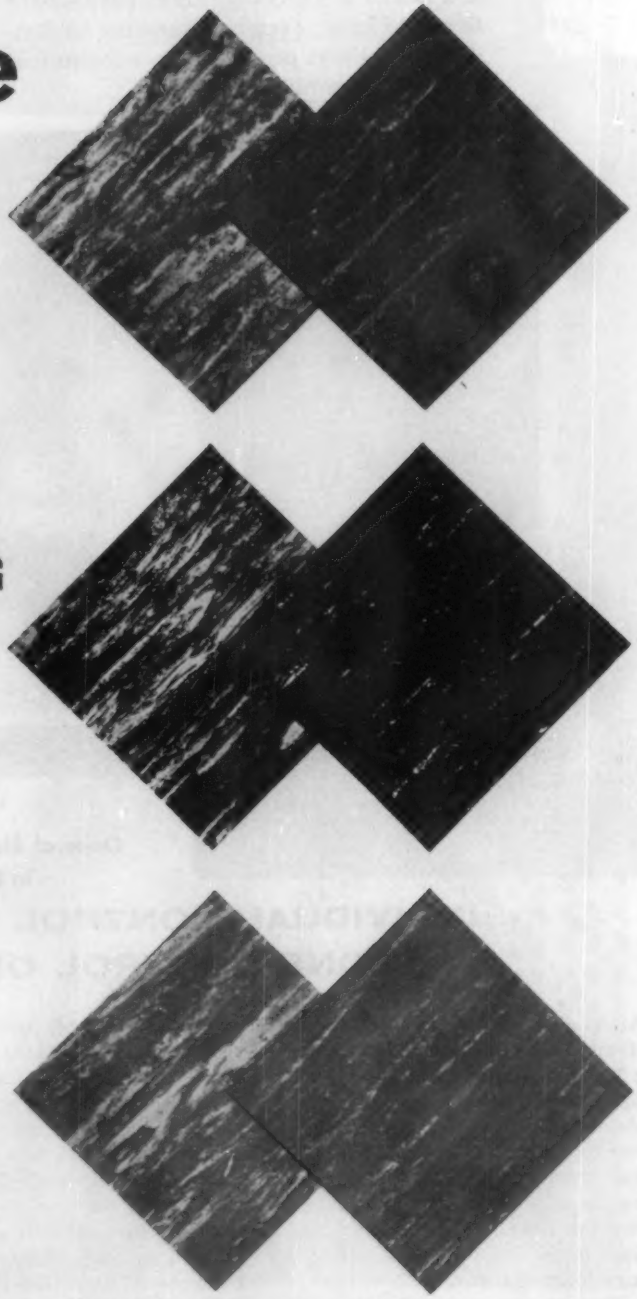
Compare

Micromatic Veining

in *Vina-Lux*®

with

CONVENTIONAL MOTTLING



▲ Conventional Mottling ▲ Micromatic Veining

Here is visual evidence why Vina-Lux with *Micromatic veining* is preferred! Note the delicate, artistic striation of color in Vina-Lux – compare it with the irregular blotchiness of conventional mottling! Vina-Lux not only looks better – but it helps you achieve important floor design objectives.

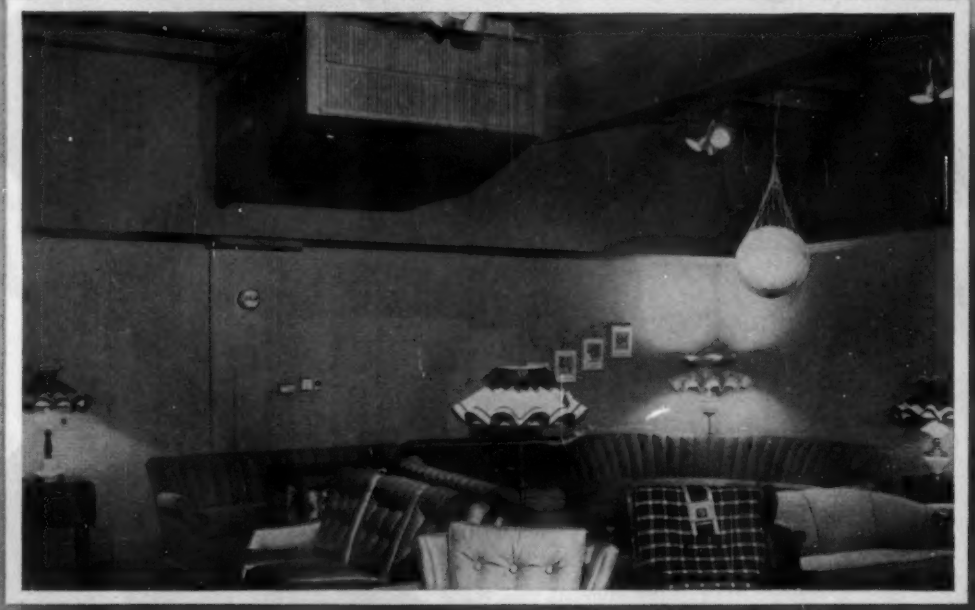
Vina-Lux is a versatile tile that solves many floor problems. It's greaseproof and durable – slip-safe and easy to maintain. Solve *your* floor problems with this outstanding vinyl asbestos tile. Available in 31 colors and 4 styles. Samples are yours without obligation.

AZROCK FLOOR PRODUCTS DIVISION

UVALDE ROCK ASPHALT CO. | 517A FROST BANK BLDG. • SAN ANTONIO, TEXAS

MAKERS OF VINA-LUX • AZROCK • AZPHLEX • DURACO

CASE #100—Another case where General Electric Factory-Assembled Air Conditioning Units proved more economical than field-assembled systems.



General Contractor: James C. Stewart Co.

General Electric Ceiling-Mounted Units at the Dallas Home Furnishings Mart take no floor space—provide individual temperature control (heat and cool)—are metered for zone control of operating cost.

General Electric Zone-by-Zone Air Conditioning in Dallas Home Furnishings Mart permits

INDIVIDUAL CONTROL OF TEMPERATURE—ZONE CONTROL OF OPERATING COST

Air conditioning the vast new Dallas Home Furnishings Mart presented a 3-way challenge. (1) Over 400,000 sq. ft. to be air conditioned. (2) Provision had to be made for each exhibitor to control his own temperature and operating cost. (3) Floor space was at a premium. The ideal solution was found—in the Zone-by-Zone installation of General Electric Ceiling-Mounted Units.

The entire area gets heating and cooling from the same units. Each exhibit area has its own units *individually controlled and metered. No floor space is used.* No ductwork is required. Noise is held to whisper level. And when the Mart proved so successful that Mr. Trammell Crow, owner, decided to double its size, all that was necessary was to add individual units as individual showrooms were added. No fuss—no alterations—no interference with performance of existing units. This is a typical example of how General Electric *factory-assembled* units meet the most exacting air conditioning requirements.

General Electric's complete line is flexible enough to meet every air conditioning requirement for all buildings—large or small—old or new. Ceiling-mounted units water-cooled up to 7½ tons—air-cooled up to 10 tons. Floor-mounted units—water-cooled up to 30 tons—air-cooled up to 20 tons. Steam and hot water coils available for all models. It will pay you to discover how General Electric Factory-Assembled Units can simplify your planning. For full details write: General Electric Company, Air Conditioning Department, Troup Highway, Tyler, Texas.

Progress Is Our Most Important Product

GENERAL ELECTRIC

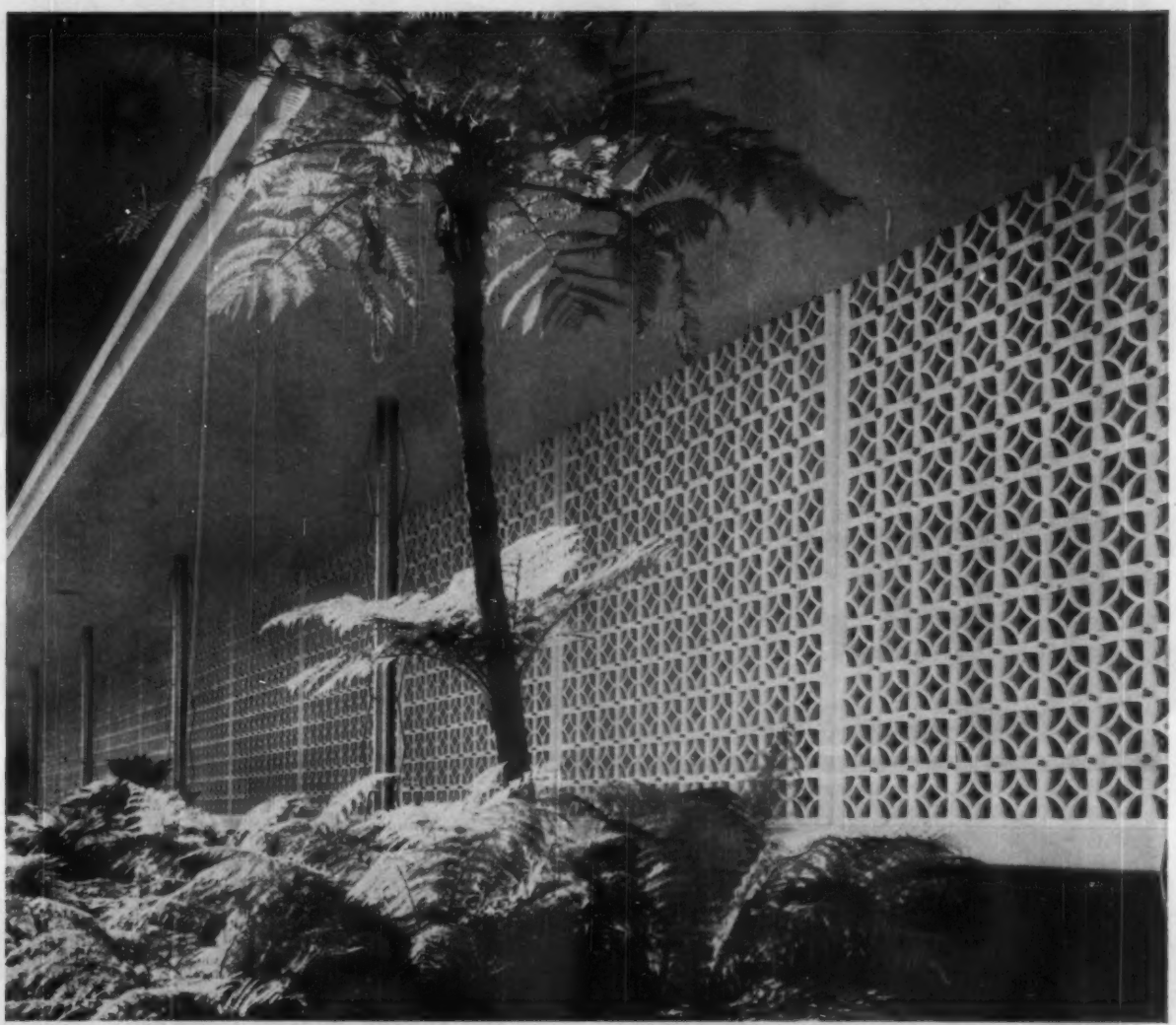
In Canada, Canadian General Electric Co., Ltd., Montreal

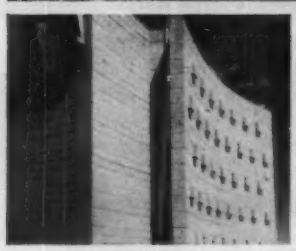
The beauty of concrete block...

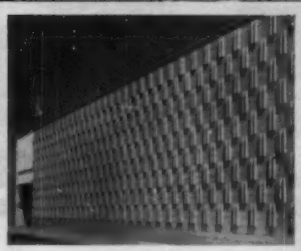
The eye-catching beauty of commercial buildings like the famous screened pharmaceutical plant (below) by Edward Stone can now be easily, economically achieved. Concrete block, available in quantity and in a variety of designs, shapes and sizes, readily enhance the design of commercial structures so that they harmonize with any surroundings, satisfy exacting zoning regulations. Installations as diverse in function and plan as homes, hotels, schools, banks, post offices gain in warmth and distinction with concrete block – as demonstrated below. The utility and economy as well as the beauty of concrete block construction are bringing it to the attention of planners and the public, for a wide range of application.

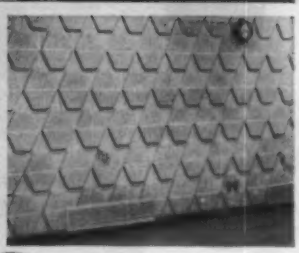
Universal Atlas is a major supplier of cement, the modern, versatile building material that meets America's concrete construction needs. Universal Atlas Cement, Division of United States Steel Corporation, 100 Park Ave., New York 17, N. Y.

UNIVERSAL ATLAS CEMENTS







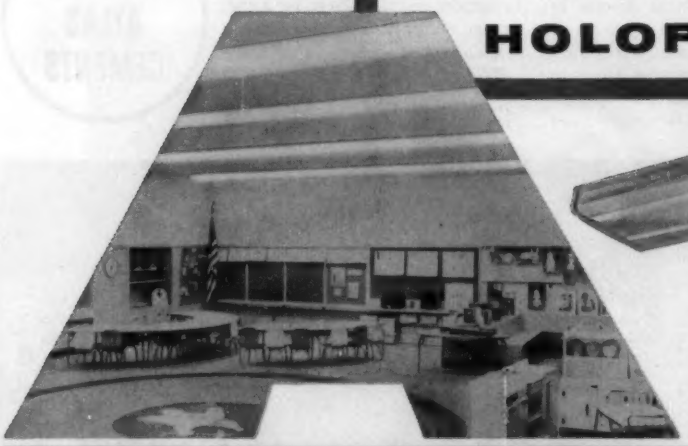


Maker of PORTLAND and special cements **Universal Atlas Cement** Division of **United States Steel**

Simple Formula . . . for Efficient, Thrifty Classroom Lighting

Specify

HOLOPHANE Luminaires

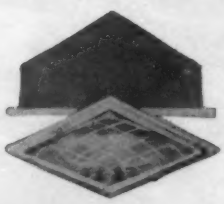


REALITE* PRISMALUME* CONTROLENS*

Provides high level fluorescent illumination with best visual comfort. PRISMALUME (acrylic plastic) enclosure; ultra-thin, light in weight, shatter resistant, free from discoloration. Annual cost-per-footcandle is low—warranting wide use of this quality luminaire.

PARADOME*

Very efficient, totally enclosed semi-direct luminaire for incandescent lighting. Prismatic control achieves highest utilization of light with greatest seeing comfort. In terms of light delivered —its cost is lower than any comparable luminaire.



LO-BRITE* CONCAVE CONTROLENS*

Pioneer development in incandescent lighting. By employing a prismatic reflector and CONTROLENS, this recessed luminaire directs maximum light on the work areas. Exceptionally low brightness; dirt-resistant; low depreciation; easy servicing.

Holophane

*®

We invite your inquiry for engineering analyses proving that Holophane luminaires offer the answer to taxpayers' demands for lighting economy.

HOLOPHANE COMPANY, INC.

Lighting Authorities Since 1898

342 Madison Ave., New York 17, N.Y.

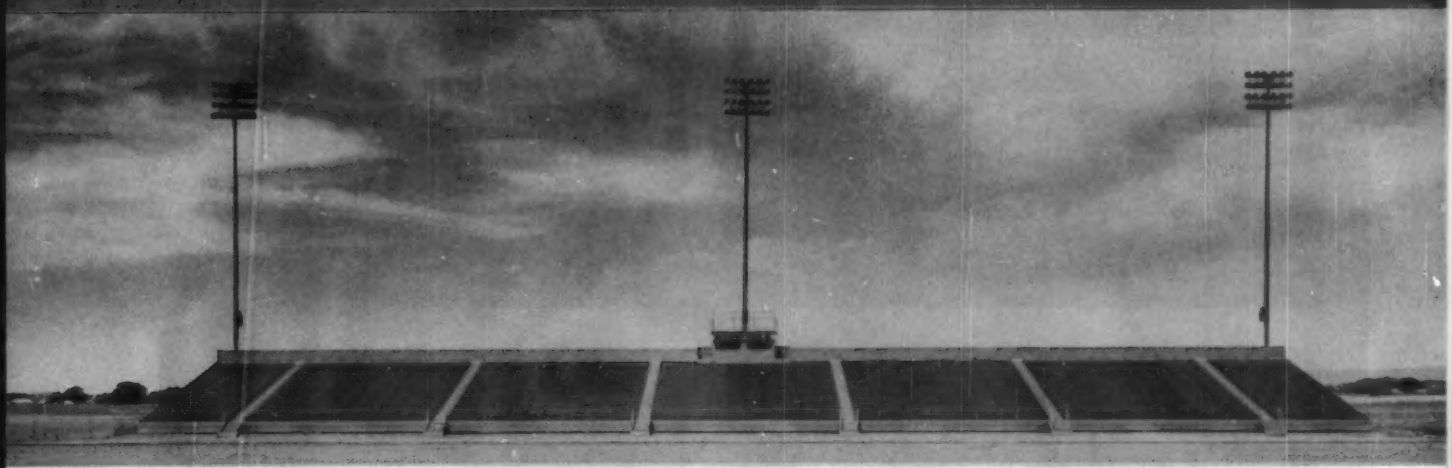
THE HOLOPHANE CO., LTD., 418 KIPLING AVE. SO., TORONTO 18, ONTARIO

design flexibility plus permanence

in better outdoor seating

STEEL DECK GRANDSTANDS

by Pittsburgh-Des Moines



Handsome appearance—for a lifetime of safe and comfortable seating

Stands may be any number of unit sections wide by any number deep—straight, U-shape or oval

Enclosed sides and rear create valuable space under waterproof deck for dressing rooms, storage, etc.

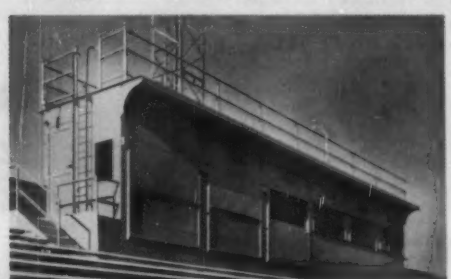
Unit-section freedom in layout, meeting individual school site and seating requirements, combined with permanent, safe and fine-appearing steel construction—these are the basic PDM Grandstand advantages enjoyed by high schools and colleges across America. The facts are detailed in our informative grandstand brochure. Write for your free copy.

PDM
STEEL GRANDSTANDS

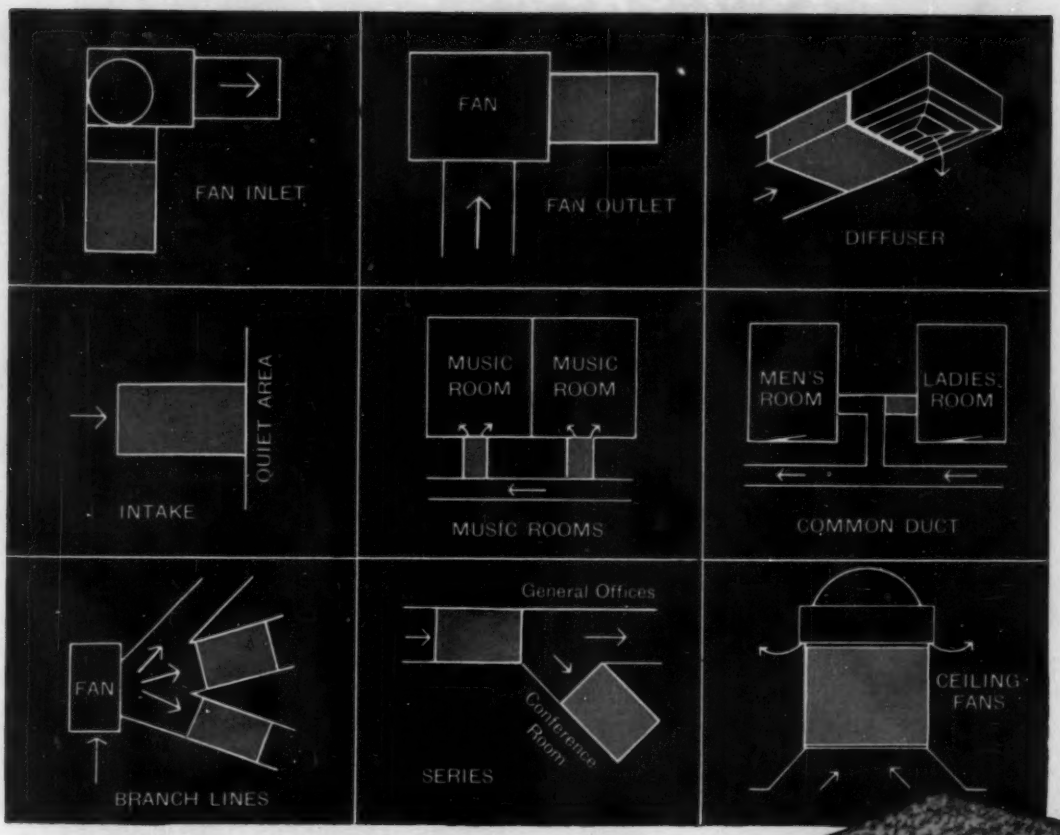
Pittsburgh-Des Moines Steel Company

Plants at PITTSBURGH, BALTIMORE, DES MOINES, SANTA CLARA, FRESNO, and STOCKTON., CAL.

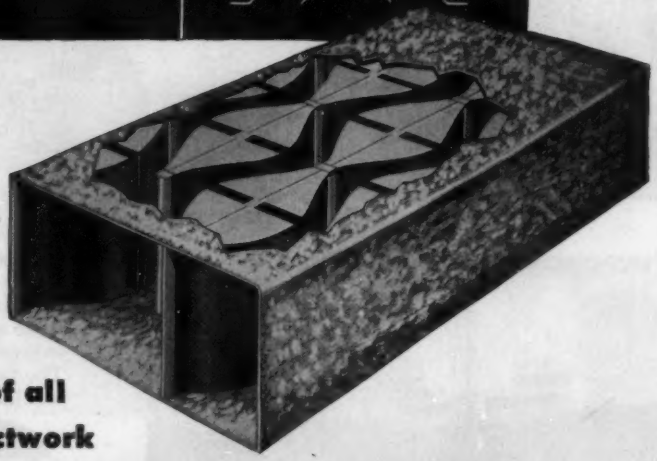
PITTSBURGH (25).....3417 Neville Island
NEWARK (2).....1790 Military Park Bldg.
CHICAGO (3).....607 First Nat'l Bank Bldg.
EL MONTE, CAL.....P. O. Box 2012
ATLANTA (5)..361 E. Paces Ferry Rd., N.E.
DES MOINES (8).....916 Tuttle Street
DALLAS (1).....1216 Praetorian Bldg.
SEATTLE (1).....Suite 307, 500 Wall St.
SANTA CLARA, CAL.....606 Alviso Road
DENVER (2)..323 Railway Exchange Bldg.



Steel press boxes provide protected facilities for officials, news and broadcast personnel



Every Building Needs *Aircoustat* Sound Traps



AIRCOUSTAT silences all noise of all frequencies traveling through ductwork

Eliminate disturbance, distraction and irritation caused by noises escaping from one area to another through ductwork.

Install AIRCOUSTAT Sound Traps. AIRCOUSTAT eliminates guesswork, wasted space and unnecessary expense of duct lining. You can guarantee your client trouble-free performance. You can estimate with complete confidence the performance of particular applications. If AIRCOUSTAT fits geometrically, it fits acoustically.

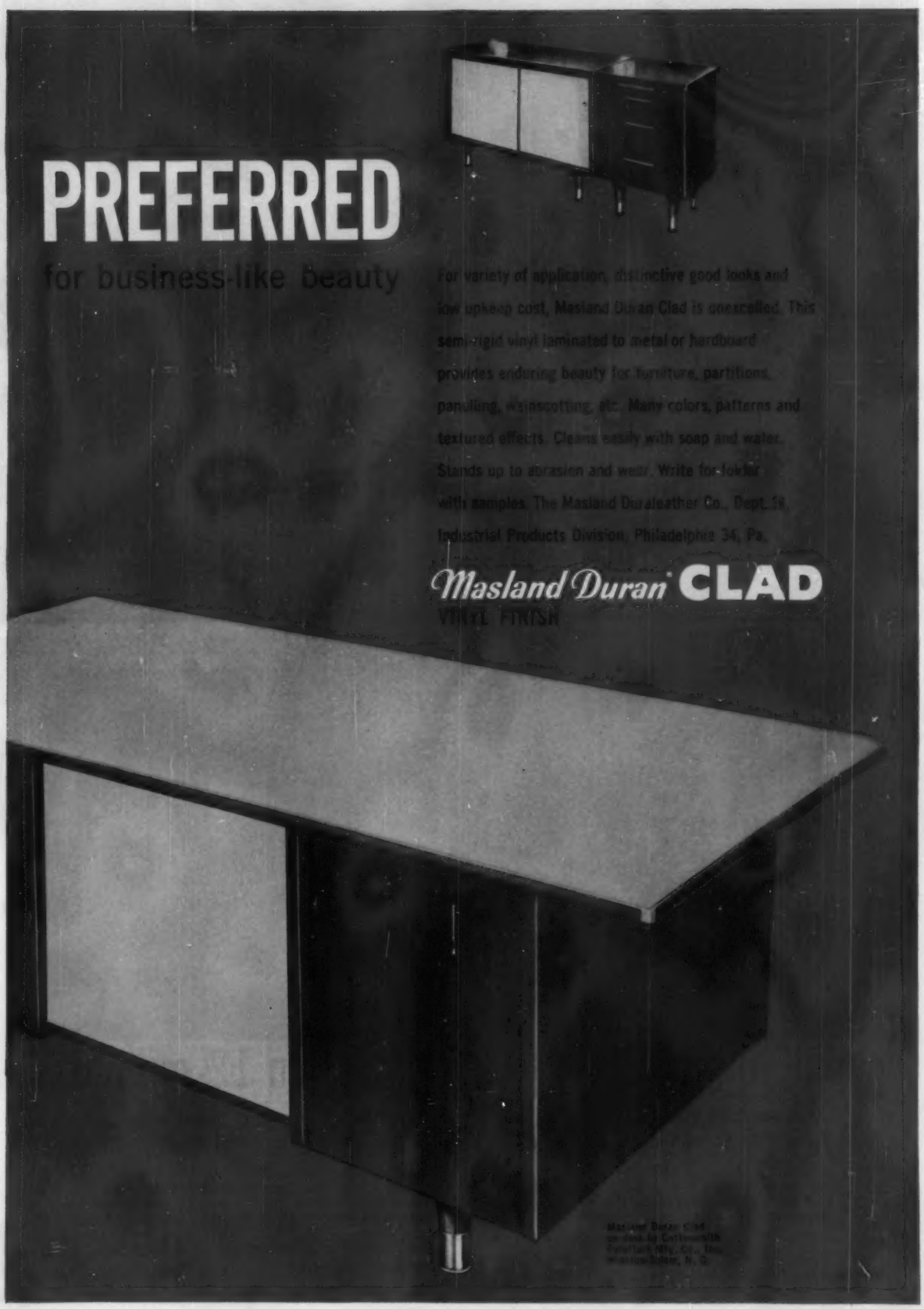
AIRCOUSTAT saves you space. Its greater effectiveness permits smaller-sized ducting. It eliminates bulky mufflers.

For more details, write to KOPPERS COMPANY, INC., Industrial Sound Control Dept., 6611 Scott Street, Baltimore 3, Md.

KOPPERS

INDUSTRIAL SOUND CONTROL

Engineered Products Sold with ***Service***


PREFERRED
for business-like beauty
For variety of application, distinctive good looks and low upkeep cost, Masland Duran Clad is unexcelled. This semi-rigid vinyl laminated to metal or hardboard provides enduring beauty for furniture, partitions, panelling, wainscotting, etc. Many colors, patterns and textured effects. Cleans easily with soap and water. Stands up to abrasion and wear. Write for folder with samples. The Masland Duraleather Co., Dept. 58, Industrial Products Division, Philadelphia 34, Pa.
Masland Duran CLAD
VINYL FINISH

montgomery elevators

SERVE ALL THE VERTICAL TRANSPORTATION NEEDS AT NEW UNIVERSITY OF FLORIDA HEALTH CENTER

Efficient dependable elevator service is of vital importance in this new 15 million dollar Health Center.

Again, as in many of the nation's leading hospitals, Montgomery has been selected to supply elevator equipment that not only will be modern in design and operation — but will more than satisfy the demands expected for efficient dependable vertical transportation.

Montgomery "Measured-Demand" Triplex and Selective-Collective elevator systems with or without attendant in the Medical Science and Teaching Hospital Units of this Health Center were sold and installed by the Bryce Elevator Company of Jacksonville, Florida, a division of Montgomery Elevator Co. of Moline, Ill.

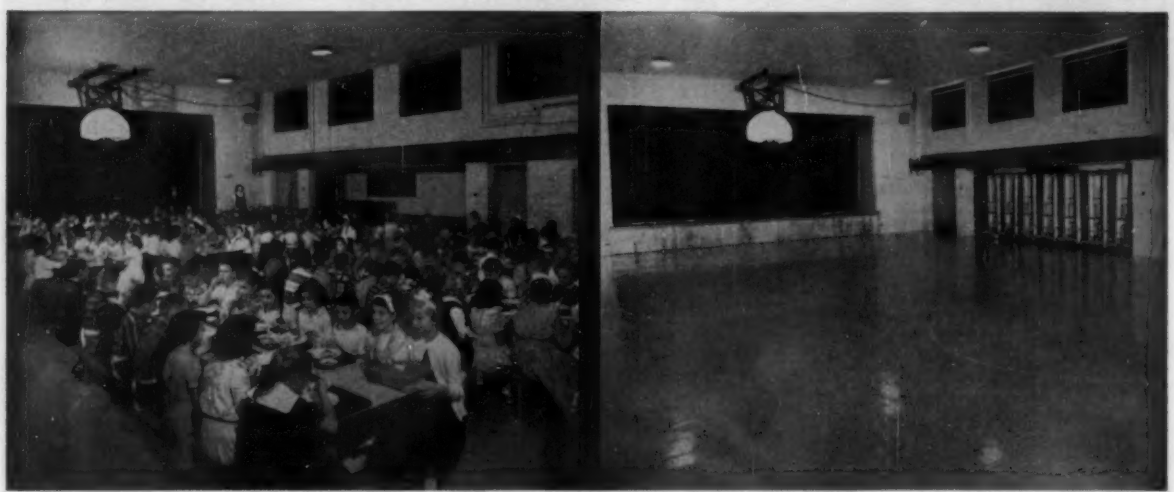
J. HILLIS MILLER HEALTH CENTER GAINESVILLE, FLORIDA

THE OFFICE OF GUY C. FULTON, ARCHITECT BOARD OF CONTROLS STATE OF FLORIDA AND ELLERBE & COMPANY, ARCHTS. ST. PAUL, MINN.

montgomery®

ELEVATOR COMPANY, MOLINE, ILL.

Exclusive Manufacturers of Passenger and Freight Elevators Since 1892



could you convert this to a gym in 12 minutes?

Without taking up valuable wall space? . . . With children doing the converting?

You can with Sico System Rolling-Folding Tables. Sico's exclusive "Floating-Fold" substitutes precision balance for dangerous locks and latches—even small children can fold a Sico table safely and easily in seconds, then roll it away to a storage area. A whole room can be converted from one use to another in minutes. The architect can choose from four scientifically designed rolling-folding bench-table units and one stationary table with folding benches. Whatever Sico System unit you choose, you have complete architectural freedom in your multi-purpose room planning—there are no construction limitations with the Sico System.

For complete architectural information on the Sico System write to . . .

Sico Manufacturing Company, Inc., Dept. 960 SICO **5215 Eden Ave. So., Minneapolis 24, Minn.**

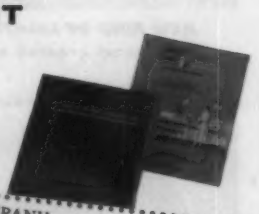
DRUG STORES:
Crown . . . Drug Fair . . . Eckerd . . . Gallaher . . . Glaser . . . Gray . . . Haag . . . Katz . . . Katz & Besthoff . . . Kinsel . . . Liggett . . . Peoples . . . Rea & Derrick . . . Renfro . . . Rennebohm . . . Skillern's . . . Sommers . . . T. P. Taylor . . . United Whelan . . . Walgreen . . . H. A. Woods

RESTAURANTS:
A.B.C. Vending . . . Currie's . . . Dewey's . . . Federal Bake Shops . . . Frisch's . . . Horn & Hardart . . . Interstate . . . Isaly's . . . Howard Johnson's . . . Oscar's . . . Parkmoor . . . Price Candy . . . Sheraton Hotels . . . Sky Chefs . . . Sport Service . . . J. Weingarten

VARIETY STORES:
W. T. Grant . . . H. L. Green . . . Hested-Lee . . . Rose's . . . S. S. Kresge . . . S. H. Kress . . . M. H. Lamston . . . McLellan . . . McCrory . . . Morgan & Lindsey . . . J. J. Newberry . . . F. W. Woolworth

DEPARTMENT STORES:
Allied Stores . . . B. Altman . . . L. Bamberger . . . Boston Store, Milwaukee . . . Dayton's . . . Bloomingdale's . . . Gimbel Bros. . . . Hecht's . . . Hochschild Kohn . . . J. L. Hudson . . . Lord & Taylor . . . Macy's . . . Marshall Fields . . . McAlpin's, Cincinnati . . . Montgomery Ward . . . Sears Roebuck

LEADING CHAINS BUY MORE BASTIAN-BLESSING FOUNTAIN-FOOD EQUIPMENT THAN ALL OTHER MAKES COMBINED!



This preference is no secret . . . nor are the reasons behind it.

Start with the finest *quality*. Add the best *appearance*. Make the equipment tops in *performance* and in trouble-free *long life*. Provide the most *complete line*. Establish a reputation for *delivery on schedule*. Then create manufacturing *economy* by producing greater volume.

No other store facility takes such a constant beating, and in none is profit-earning ability so dependent on proper functioning. The chains have learned from experience Bastian-Blessing equipment earns maximum return on investment. *That's why leading chains buy more Bastian-Blessing fountain-food equipment than all other makes combined.*

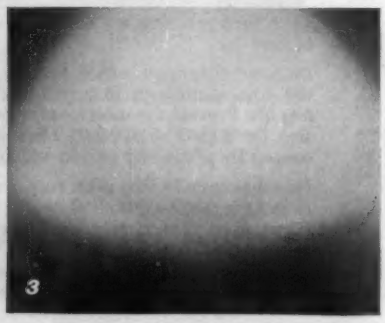
THE BASTIAN-BLESSING COMPANY
4205 W. Peterson Avenue, Chicago 46, Illinois, Dept. 4-K
Please send me informative literature on ☐ Cafeteria Equipment; ☐ Food-Fountain Equipment; ☐ Soda Fountains. I am interested in _____
Individual _____ Title _____
Company _____
Street _____
City, Zone, State _____

BASTIAN-BLESSING
World's largest manufacturer of fountain and counter food-service equipment

FOOD WARMERS · GRIDDLE STANDS · SANDWICH UNITS · DISHWASHING MACHINES · REFRIGERATED DISPLAY CASES · SERVICE REFRIGERATORS

NEW FIBERGLAS* POLARIZING

NEW KIND OF LIGHTING **made possible with the Fiberglas Polarizing Light Panel is ideal for offices like this. Note how panel creates a handsome ceiling effect as well.**



LIGHT DISTRIBUTION TEST: **(1)** ***Lens Panel:*** **note how light is refracted away from the direct glare zone (dark areas) to heavy beams of light in the reflected glare zone. (2)** ***Diffuser Panel:*** **note how it evenly distributes light in the reflected glare zone but leaves a concentration of light at the high angle or direct glare zone. (3)** ***Fiberglas Panel.*** **note how light is reflected away from the direct glare zone by polarizing action and is evenly distributed into a soft diffused lighting pattern.**

LIGHT PANEL!

REVOLUTIONARY PRODUCT BRINGS SOFT EVEN LIGHT WITHOUT GLARE!

Now a single panel controls the discomfort of direct and reflected glare. Fiberglas has combined the advantages of both the lens type closure and the diffuser to produce an ideal lighting panel.

WHAT IT DOES

The Fiberglas Polarizing Light Panel controls brightness by *polarization* and at the same time diffuses the light to reduce glare. It offers the two most sought after properties in lighting—the reduction of direct-from-fixture glare, which up to now has been accomplished by a lens or louver, and the reduction of reflected-from-room glare that is made possible by a diffuser. Both of these highly desirable features are now combined in the Fiberglas Polarizing Light Panel.

HOW IT WORKS

As light passes through the panel to the area directly under the fixture, thousands of tiny Fiberglas Flakes diffuse the light, making it soft and even. But as the light passes through the Flakes to the area *around* the fixture, some of the light is reflected back into the fixture by the polarizing action. This reduces light in the critical or direct glare zone 45° up to the ceiling. Result is even, glare-free light that's easy on the eyes.

HOW IT CAN BE USED

The panel is designed for use as a closure for fluorescent lighting fixtures. It's made of polyester and Fiberglas Flake and molded into flat sheet laminates. Panels are trimmed to size on order in any flat sheet size up to 24" x 48". They are lightweight, easy to ship, store, handle and fabricate. The panel's attractive textured appearance presents an interesting yet architecturally neutral effect. Panels can span a 2' x 4' area without prisms, ribs, corrugations, louvers, or supports which tend to mar ceiling continuity. Clean, flat, quiet looking ceilings are easy to design.

WHERE TO GET IT

Call your nearest Fiberglas Branch listed in the yellow pages of your phone book for complete information and data.

SEND IN THIS COUPON

FOR YOUR COPY OF THE A.I.A. FOLDER ON THE NEW FIBERGLAS POLARIZING LIGHT PANEL WITH COMPLETE SPECIFICATIONS AND DATA.

OWENS-CORNING
FIBERGLAS
*T.M. (Reg. U.S. Pat. Off.)

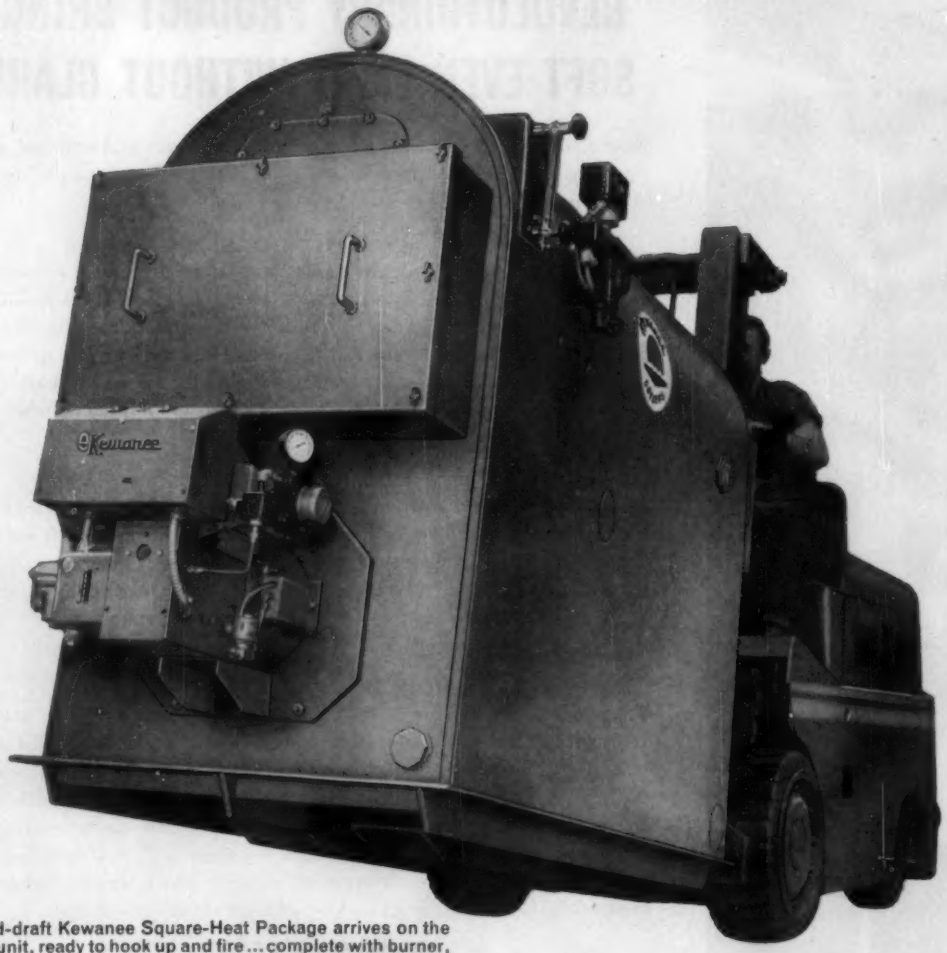
Owens-Corning Fiberglas Corp.
Dept. 68-K, 598 Madison Ave., New York 22, N. Y.
Send me your free copy of the A.I.A. folder on the new Fiberglas Polarizing Light Panel.

*Name*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

NOW . . . FORCED-DRAFT FIREBOX PACKAGES



Forced-draft Kewanee Square-Heat Package arrives on the job as a unit, ready to hook up and fire ... complete with burner, pre-wired control panel, pre-cast refractory chamber and skids. It requires no crating...no job-site insulating.

KEWANEE® SQUARE-HEAT GAS-OIL UNITS

for 15 lb. steam or 30 lb. water, 216,000 to 1,800,000 Btuh

For the first time, Kewanee offers a fire-box package boiler! The new Square-Heat Packages are forced-draft, requiring only a stub vent—no high stack. Kewanee's new combination gas-oil burner fires natural, mixed or L.P. gas . . . No. 1 or 2 fuel oil. One switch changes fuels . . . automatic changeover is available. An exclusive air distribution system pre-mixes gas and air before it enters the combustion chamber, for smoother and more efficient firing.

Along with the new burner is a new pressure-tight front flue cover dogged down by easily removed wing nuts . . . and a new, standard-equipment, wrap-around insulated jacket of heavy-gauge steel. Retained in the new units are Square-Heat's compact design, large firebox, widely spaced 3" fire tubes, large disengaging area and ample steam space.

For complete facts see your Kewanee Man or write: AMERICAN-STANDARD*, KEWANEE BOILER DIVISION, 105 Franklin Street, Kewanee, Illinois.

See this new Square-Heat unit among the display of Kewanee forced-draft packages at Booth 134, Power Show, New York Coliseum, December 1-5, 1958.

*American-Standard and Standard ® are trademarks of American Radiator & Standard Sanitary Corporation.

AMERICAN-Standard
KEWANEE BOILER DIVISION

Imagination knows no bounds with magnificent floors of Amtico Vinyl

Field of Renaissance Vinyl with plain vinyl custom inserts. Achieves Aubusson rug effect. Designers—Virginia Chappell, Robert Henry of VR Interiors

Express the most original of flooring ideas in fabulous Amtico Vinyl Flooring. Bring any decor to radiant life with exciting Amtico Vinyl . . . dimensional Renaissance, translucent Stardust, metallic Eldorado and Coronado, striking Terrazzo Design, vibrant Marbleized and smartest plain colors. Amtico's lovely colors go thru-and-thru each all-vinyl tile. Beauty withstands hardest wear. Flexible, resilient Amtico Vinyl needs so little care, can't crack or tear, defies grease, resists acid. The most colorful and complete line ever, Amtico Vinyl Flooring rates first with leading consumer research organizations. Outstanding designers choose Amtico Vinyl or Amtico Rubber Flooring for their most imaginative designs.

Robert Owen Johnson evolves a classic contemporary look with Amtico Renaissance Vinyl in this garden TV room.

Gold vinyl inserts in Amtico Terrazzo Design Vinyl create an unusual effect in this foyer by Hoffman-Heidrich.

Harlequin insets of Amtico Stardust Vinyl repeat the gay wall pattern in a smart guest room by Albert Thomay.

Amtico
PERMALIFE
VINYL FLOORING

1908-1958...50 Years of Growth and Progress

AMERICAN BILTRITE RUBBER COMPANY

TRENTON 2, NEW JERSEY

Showrooms: 295 Fifth Ave., N.Y.C. • 13-179 Mdse. Mart, Chicago • In Canada: American Biltrite Rubber Company, Ltd., Sherbrooke, Que.

AMTICO, Dept. AB-4, Trenton 2, N.J.
Please send detailed literature and FREE complete set of Amtico Vinyl and Rubber Flooring samples to:

NAME _____

FIRM _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

(Please attach coupon to your business card or letterhead)

Architects...School Administrators...

this is **MODUWALL**

A new concept in classroom wall utilization that completely outmodes conventional fixed-to-the wall chalkboard and display equipment.

Brunswick **MODUWALL** has already been field proven in scores of installations... it is now available for your new or remodelled schoolrooms

Invest in

Brunswick

SCHOOL EQUIPMENT

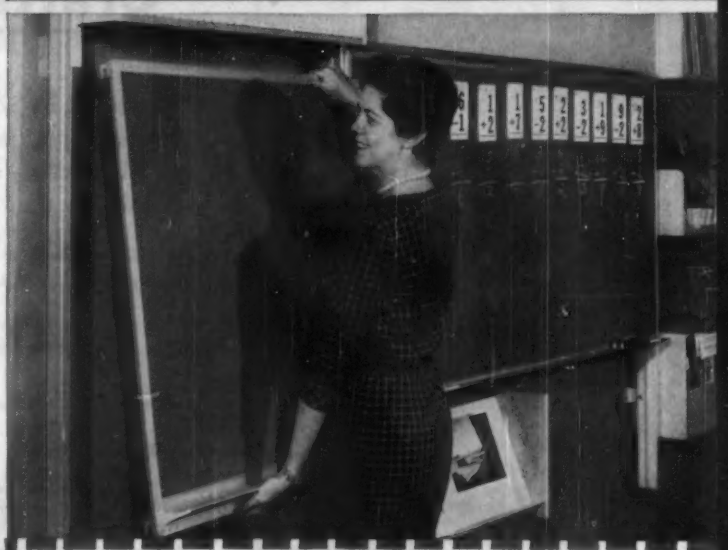
for better learning . . . for lasting value

FLEXIBILITY INSURANCE—Brunswick Moduwall gives you complete classroom flexibility over the years . . . as school population shifts . . . as classroom purposes change. By simply changing the *kinds and heights* of panel units, you can transform a kindergarten into a fifth grade, a fifth grade into a social studies room, a math class into a kindergarten! Today's elementary schoolrooms become tomorrow's educationally perfect junior and senior high rooms—without costly reconstruction. With Moduwall your classrooms are never obsolete . . . always ready for change in grade or function!

EVERY WRITING, DISPLAY REQUIREMENT SERVED—Moduwall accessories can be mounted in minutes. 4 Chalkboard sizes, 6 Tackboards, 1 Pegboard, 3 Open and Closed Cabinets, 2 Magazine Racks, 1 Easel, 2 Flannelboard sizes and Utility Boards to choose from! All are interchangeable!

TEACHER'S DREAM—Only Moduwall gives your teacher full freedom to use the teaching aids that best suit *her* individual purposes . . . and teaching techniques. She can change panels as instruction projects and assignments change...from day to day, semester to semester, as she desires. (We'll be happy to help you plan an efficient Moduwall Panel Inventory to meet your immediate and long-term needs.)

AND MODUWALL IS ECONOMICAL, TOO!—Moduwall not only gives you scores of educational advantages . . . but actually costs less to install and use now . . . and over the years than conventional wall fixtures. It will pay you, your teachers and your community well to investigate . . . and have your architect specify . . . and use Moduwall!



1. *Only* **MODUWALL** *gives you the amount of* CHALKBOARD *you want . . . where you want it . . . when you want it.*
2. *Only* **MODUWALL** *gives you the amount of* PEGBOARD *you want . . . where you want it . . . when you want it.*
3. *Only* **MODUWALL** *gives you the amount of* TACKBOARD *you want . . . where you want it . . . when you want it.*
4. *Only* **MODUWALL** *gives you the amount of* EASEL, OPEN AND CLOSED STORAGE, MAGAZINE RACK *you need...where you want it...when you want it . . .*

SEND FOR MORE INFORMATION TODAY

THE BRUNSWICK-BALKE-COLLENDER COMPANY
School Equipment Division, Dept. 1510
623 South Wabash Avenue
Chicago 5, Illinois

PLEASE send more information on Moduwall to

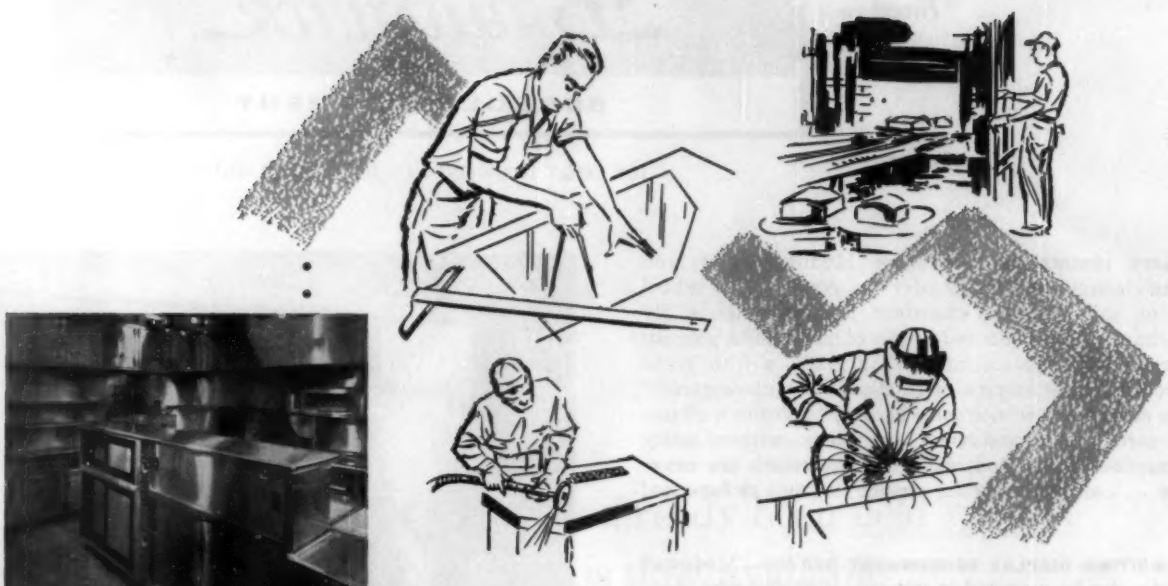
Name.....

Title.....

School/Firm.....

Address.....

City.....*Zone*.....*State*.....



"Custom-Bilt by Southern"

means

Craftsmanship at its Best

Into every piece of "Custom-Bilt by Southern" food service equipment goes the work of master craftsmen. Each part is precision-built and fitted by skilled workmen. Every operation is carefully supervised, resulting in a finished product that guarantees lasting quality.

Look to Southern for expert assistance with your food service problems. Consult your "Custom-Bilt by Southern" Dealer, or write to Southern Equipment Co.

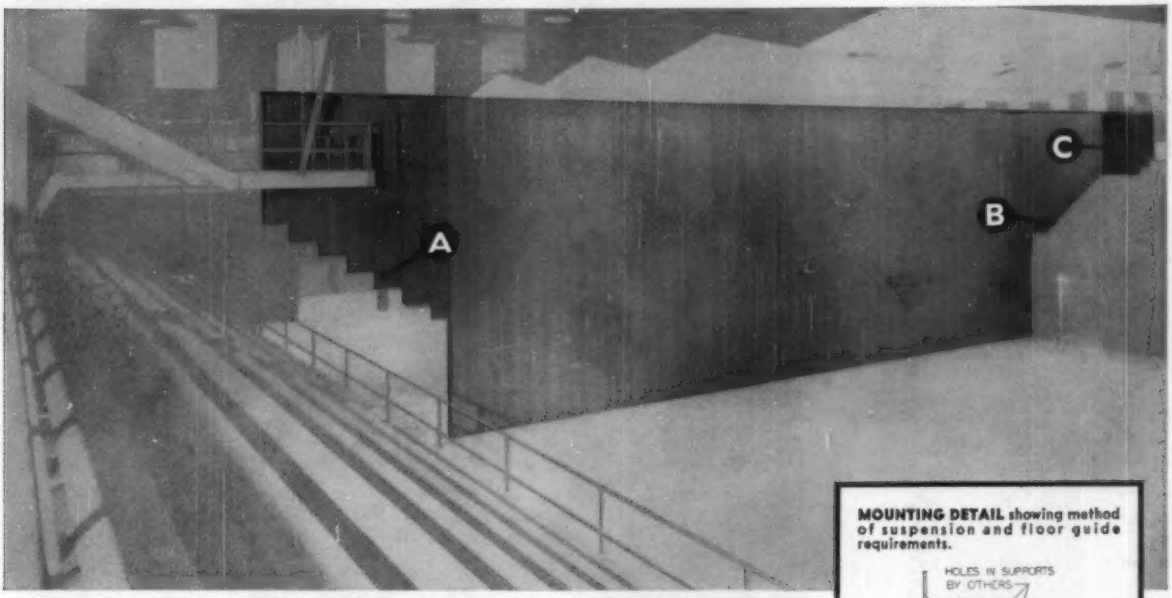
"CUSTOM-BILT BY SOUTHERN" DEALERS

ALABAMA, BIRMINGHAM—Vulcan Equip. & Supply Co.; MOBILE—Mobile Fixture Co. **ARKANSAS,** LITTLE ROCK—Krebs Bros. Supply Co. **FLORIDA,** DAYTONA BEACH—Ward Morgan Co.; JACKSONVILLE—W. H. Morgan Co.; MIAMI—J. Conkie, Inc.; ORLANDO—Turner-Haack Co.; ST. PETERSBURG—Staff Hotel Supply Co.; TAMPA—Food Service Equip. Co., Inc. **GEORGIA,** ATLANTA—Whitlock Dobbs, Inc. **ILLINOIS,** PEORIA—Hertzel's Equip. Co. **INDIANA,** EVANSVILLE—Weber Equip. Co.; INDIANAPOLIS, MARION—National China & Equip. Corp. **IOWA,** DES MOINES—Bolton & Hay. **KENTUCKY,** LEXINGTON—Heilbron-Matthews Co. **LOUISIANA,** NEW ORLEANS—J. S. Waterman Co., Inc.; SHREVEPORT—Buckelew Hdwe. Co. **MASSACHUSETTS,** BOSTON—Thompson-Winchester Co., Inc. **MICHIGAN,** BAY CITY—Kirchman Bros. Co.; DETROIT—A. J. Marshall Co., GRAND RAPIDS—Post Fixture Co. **MINNESOTA,** MINNEAPOLIS—Asiesen Co.; ST. PAUL—Joesting & Schilling Co. **MISSOURI,** KANSAS CITY—Greenwood's Inc.; ST LOUIS—Southern Equipment Co. **MONTANA,** BILLINGS—Northwest Fixture Co. **NEBRASKA,** OMAHA—Buller Fixture Co. **NEW YORK,** ALBANY—Lewis Equip. Co. **NORTH CAROLINA,** ASHEVILLE—Asheville Showcase & Fixture Co.; CHARLOTTE—Hood-Gardner Hotel Supply Corp. **NORTH DAKOTA,** FARGO—Fargo Food & Equip Co. **OHIO,** CINCINNATI—H. Lauber & Co.; CLEVELAND—S. S. Kemp Co.; COLUMBUS—General Hotel Supply; TOLEDO—Rowland Equip. Co.; YOUNGSTOWN—W. C. Zabel Co. **OKLAHOMA,** TULSA—Goodner Van Co. **PENNSYLVANIA,** ERIE—A. F. Schultz Co.; PITTSBURGH—Flynn Sales Corp. **SOUTH CAROLINA,** GREENVILLE—Food Equipment Co. **TENNESSEE,** CHATTANOOGA—Mountain City Stove Co.; KNOXVILLE—Scruggs, Inc.; MEMPHIS—House-Bond Co.; NASHVILLE—McKay Cameron Co. **TEXAS,** CORPUS CHRISTI—Southwestern Hotel Supply, Inc.; SAN ANTONIO—Southwestern Hotel Supply, Inc. **UTAH,** SALT LAKE CITY—Restaurant & Store Equipment Co. **VIRGINIA,** RICHMOND—Ezekiel & Weilman Co. **WEST VIRGINIA,** CLARKSBURG—Parson-Souders Co. **WISCONSIN,** MILWAUKEE—S. J. Casper Co. **CUBA,** HAVANA—Equipos de Bar y Cafeteria, S. A.

NSF

SOUTHERN®
EQUIPMENT COMPANY
4548 GUSTINE
ST. LOUIS 16, MO.

LARGEST COIL-AWAY PARTITION in the WORLD!



The New Mishawaka High School Gymnasium (Mishawaka, Ind.) . . . Perkins and Will, Architects.

ONLY Coil-Wal® COULD SOLVE THIS PROBLEM IN LONG DIVISION!

THE PROBLEM:

Divide one gymnasium 200′ x 120′ into two separate areas. Partition must accommodate and divide permanent balcony bleachers on either side without sacrificing seating space. Weight of partition must not exceed load which can be safely borne by normal trusses and spans. Partition must have automatic-electric operation and minimum storage requirements.

THE SOLUTION:

One 120′ x 26′ COIL-WAL Automatic-Electric Partition.

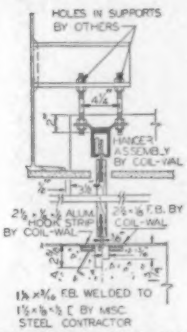
Point (A) in above photo shows how COIL-WAL was "stepped" to accommodate balcony bleachers to the left. On the right, at point (B), balcony was "slotted" to a width of two inches to permit passage of partition.

No extra heavy overhead trusses or beams were required because this COIL-WAL partition weighs only three pounds per square foot, including hardware and accessories and the storage load bears directly to the coil box foundation with no build-up on track or columns.

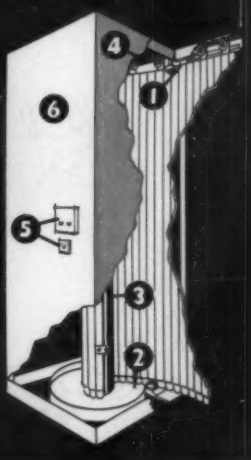
The entire partition is accommodated in (C) a storage box less than four and a half feet square.

Other factors which prompted the selection of COIL-WAL in this application were its beauty and neat appearance; its ability to withstand incredible impact without damage to player or partition; and its comparatively low cost and maintenance requirements.

MOUNTING DETAIL showing method of suspension and floor guide requirements.


HOLES IN SUPPORTS BY OTHERS
HANGER ASSEMBLY BY COIL-WAL
ALUM. HOOK STRIP BY COIL-WAL
F.B. BY COIL-WAL
F.B. WELDED TO
BY MISC. STEEL CONTRACTOR
BOTTOM GUIDE FOR TYPES AE/CC.

THE COIL-WAL STORAGE BOX As curtain leaves track at point (1), storage load is guided and shifted to spindle base (2) while gear-driven spindle (3) exerts coiling action . . . To draw curtain, power is transferred to cable (4) which runs the length of track . . . Key-switch and selector control (5) may be located at option of architect.



WRITE FOR FREE ARCHITECTS INSTALLATION DETAIL BROCHURE. Let our representative in your area show how Coil-Wal can meet *your* architectural and structural conditions at lower costs.

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE — OR WRITE FOR COPY

Coil-Wal

DUBUQUE PRODUCTS, INC.
DYERSVILLE, IOWA

Most great buildings such as

Steel Pipe used for soil, waste and vent lines for back-to-back men's and women's toilet room.

Steel Pipe used for waste and vent lines serving floor, drain and sink to kitchen on floor above.

Steel Pipe used for soil, waste and vent lines serving men's toilet room.

Cleveland's ILLUMINATING BUILDING *use*

GALVANIZED STEEL PIPE DRAINAGE AND VENT LINES

Unseen behind the inspiring facades of so many of today's beautiful new buildings is a more prosaic product . . . dependable, economical, time-tested *galvanized steel pipe* . . . serving in the vital health lines. Unsurpassed strength, longevity and lowest cost combine to make *galvanized steel pipe* the logical choice for these drainage and vent lines.

As so many customarily do, the builders of the impressive new Illuminating Building, pride of Cleveland, selected *galvanized steel pipe* for this important utilitarian service. Another "great name" building in a list which includes New York's Coliseum, the bronze Seagram skyscraper, Socony-Mobil, Mutual Benefit Life and so many more.

In addition to *galvanized steel* drainage and vent lines, other grades of *steel pipe* play important roles in every modern building . . . in fire sprinkler systems, sidewalk snow melting installations, gas, air and water lines, structural applications, heating and air conditioning. For *steel pipe* is the most versatile and least expensive of metal tubular products . . . the most widely used pipe in the world.

Carson & Lundin
Architects
McGeorge-Nugent
and Associates
Mechanical Engineers
George A. Fuller Company
General Contractor
Herman Lavelle Company
Plumbing Contractor

STEEL PIPE IS FIRST CHOICE

- Low cost with durability
- Strength unexcelled for safety
- Formable—bends readily
- Weldable—easily, strongly
- Threads smoothly, cleanly
- Sound joints, welded or coupled
- Grades, finishes for all purposes
- Available everywhere from stock

INSIST ON PIPE MADE IN U.S.A.

COMMITTEE ON STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

150 East Forty-Second Street • New York 17, N.Y.

CURTAIN WALL with Advanced Design Features!

modu-wall

UPJOHN MEDROL BUILDING, KALAMAZOO, MICH.—ENGINEERS & BUILDERS: THE AUSTIN CO.

BARCLAY HILLS ELEMENTARY SCHOOL, PARCHMENT, MICH.
ARCHITECTS: STAPERT, PRATT, BULTHUIS, SPRAU, & CROTHERS

NEW Strong structural vertical lines eliminate excessive cross members.

NEW No exposed screws... fasteners completely concealed.

NEW Flush inside surfaces... no projecting mullions.

NEW Alumilite 204-R1 as standard finish... for lasting brilliance.

NEW All panels factory installed to your custom specifications.

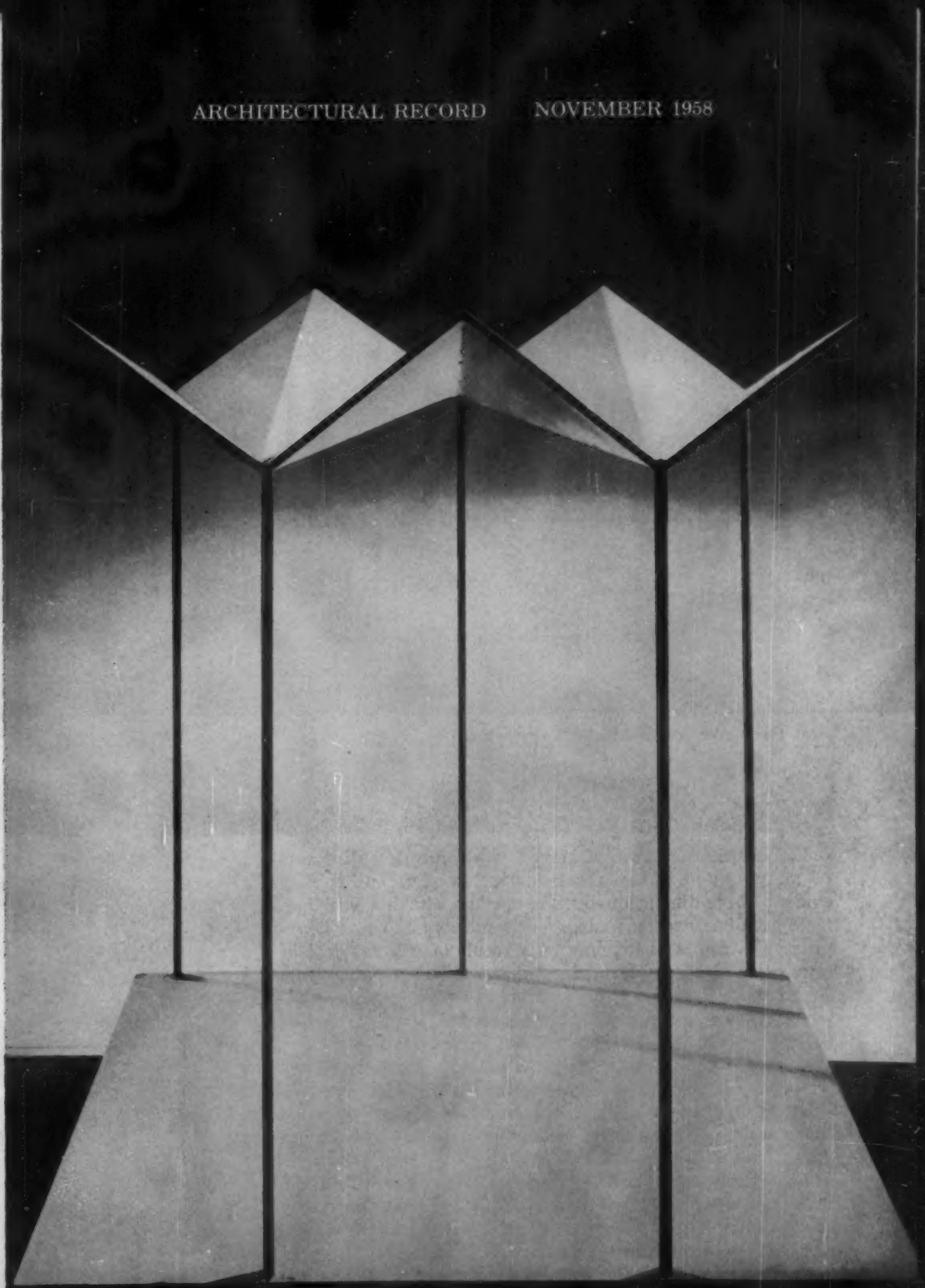
NEW Interior partitions, door frame, exterior curtain wall... all CUSTOM BUILT AT UNBELIEVABLE ECONOMY PRICES.

WRITE FOR DETAILS OF COMPLETE FIELD-AND-FACTORY DESIGNING SERVICE!

modu-wall, inc.

5575 N. RIVERSIDE DRIVE
PARCHMENT, MICHIGAN

ARCHITECTURAL RECORD NOVEMBER 1958



Recent Work of

Eliot Noyes

Ben Schnall

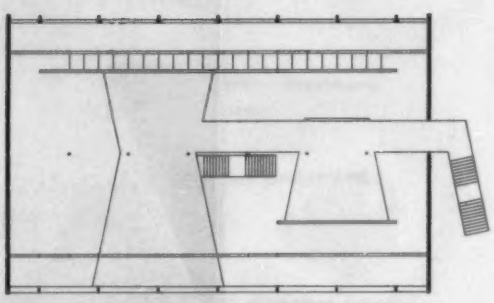
IBM Pavilion, 1958 Brussels World's Fair

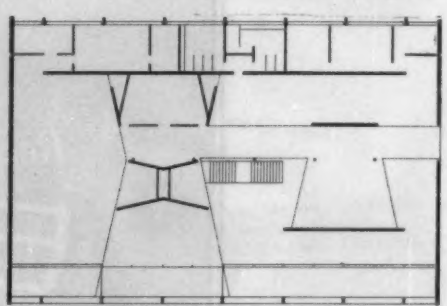
A leading characteristc of Noyes' work is a deceptive sort of simplicity—expressed graphically in plan but equally evident three-dimensionally when one visits his building. Deceptive because its realization is not as simple as it appears, but comes about only as a result of a great deal of concentrated study devoted to the problem of arranging functional elements, so they compose in plan into a rectangle or square or some other simple shape. One fails to find "ears" or "cut-ins" or "bustles" in these buildings.

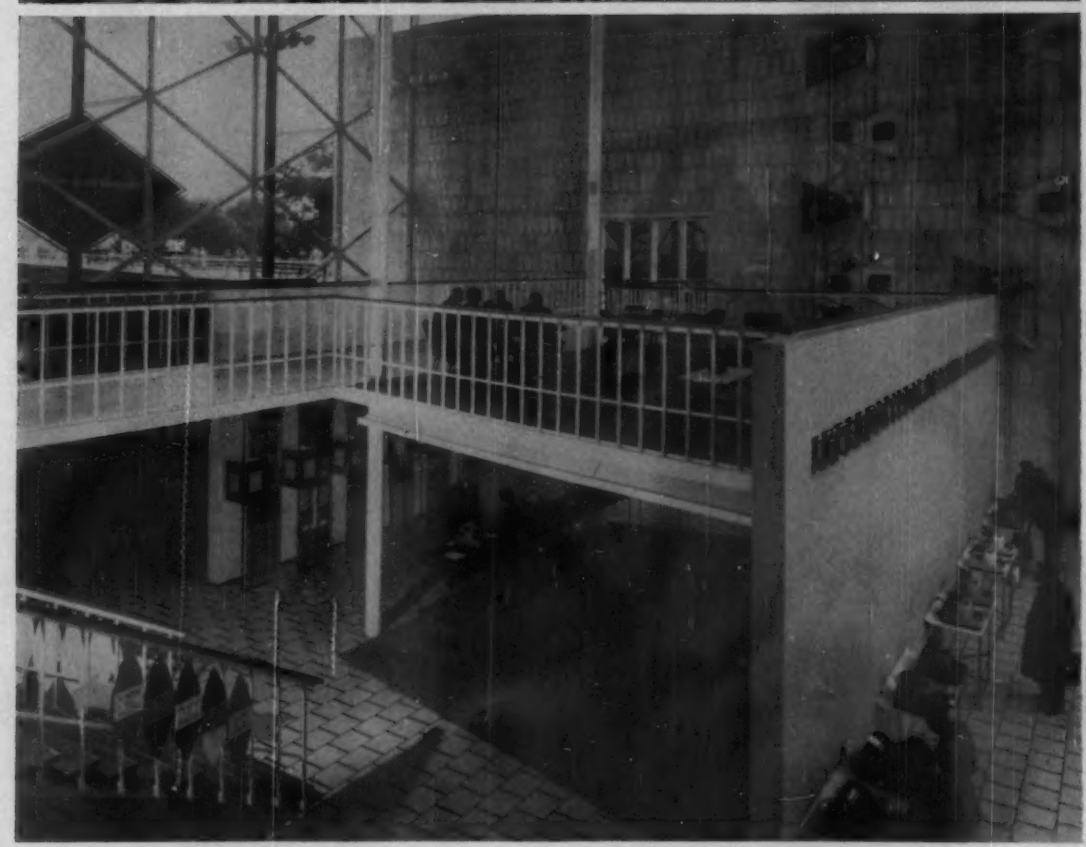
It is of interest also that, in walking through Noyes' building, one seems to have—no matter in what area or space he may be—a strong sense of identification with his surroundings. This kind of planned orientation is a design plus of significance.

An orderly structural pattern is evident visually in the buildings shown; as well as a restrained, yet sprightly use of bold color here and there against a predominantly white, or off-white, or natural-material foil. There is, of course, nothing new in these ideas; but the measure of Noyes' architectural achievement rests in the considerable style with which they are carried out.

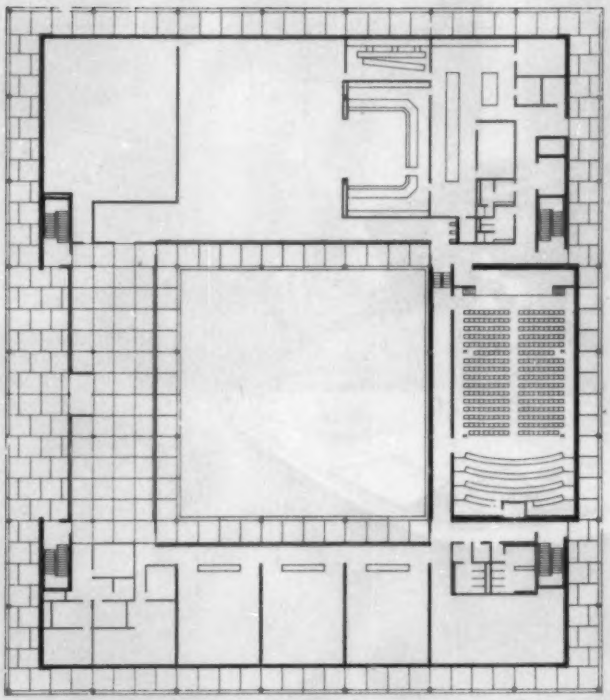
The following individuals in the Noyes' organization are to be credited—at his request—for their heavy contributions in carrying out the work shown: In architecture—Arthur DeSalvo, Associate; Richard Brunjes; Charles Baffo; Robert Anderson; Warren Kaffka. In industrial design—Ernest Bevilacqua, Associate; Allan McCroskery. In interior design—Hugh and Kathryn Smallen, Associates.

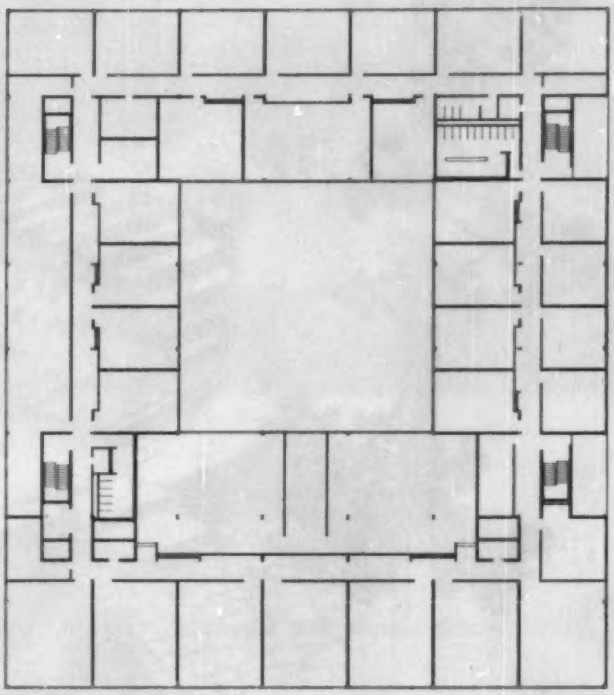






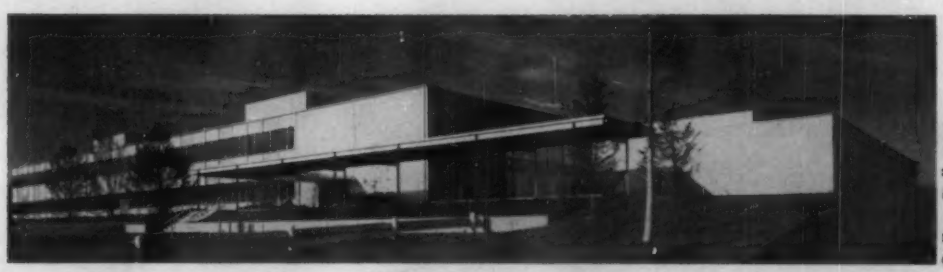
Photos courtesy of IBM





IBM Education Center, Poughkeepsie, N. Y. (above and left)

Completed Larger Buildings

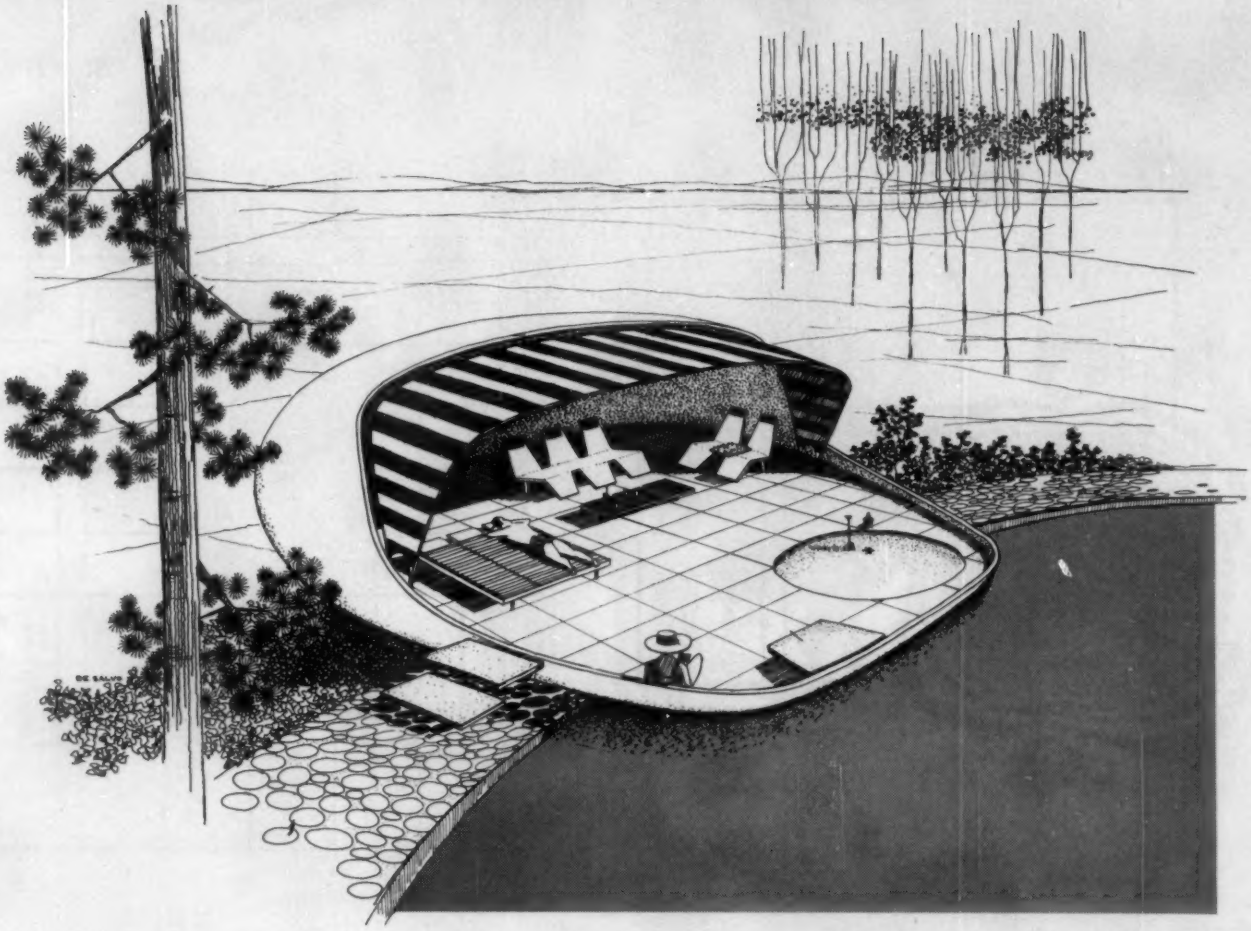


© Ezra Stoller

IBM Engineering Laboratory, Poughkeepsie, N. Y.

Ben Schnall (also opposite page)

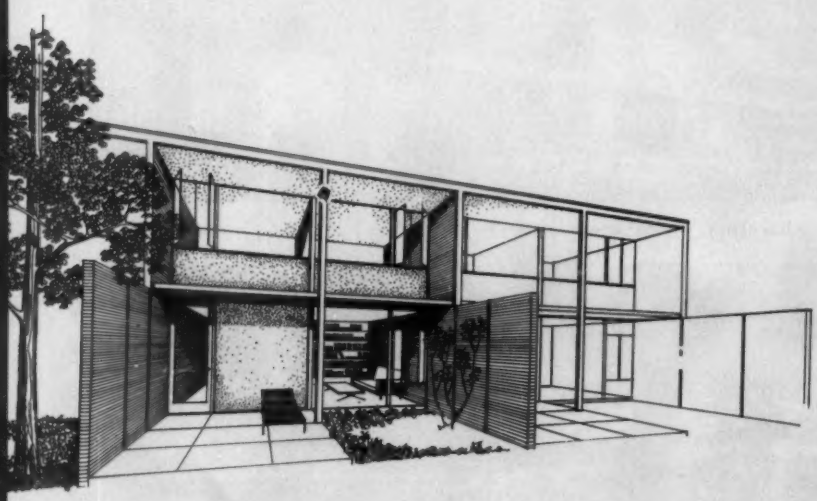
Elementary School, Salisbury, Conn., with Perkins & Will

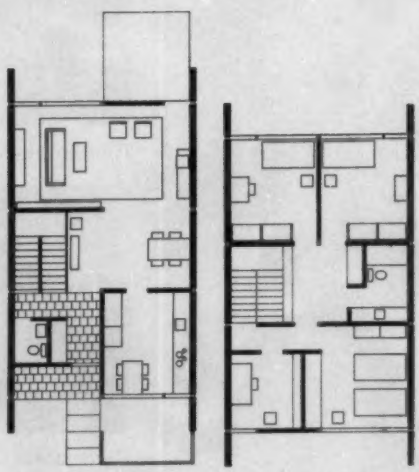


Study for Poolside Sun-shell, for the Tile Council of America, Inc.
Designed to be built of the same materials at the same time as a sprayed-concrete pool

Projects

Current work in the Noyes office



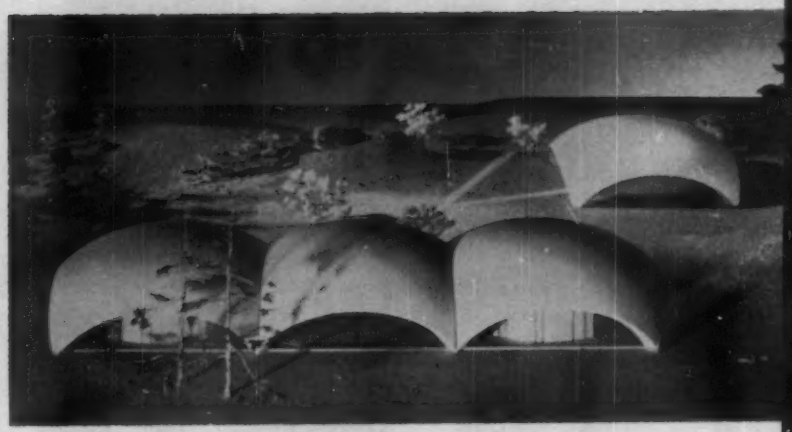


Study for Faculty Housing, Vassar College, Poughkeepsie, N. Y.

Eliot Noyes

Ben Schnall

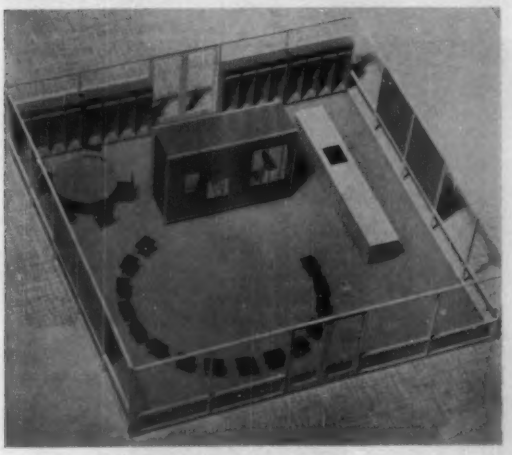
Original concrete bubble house, Hobe Sound, Fla.



Developed as a larger house plus garage

Thin Shell Development

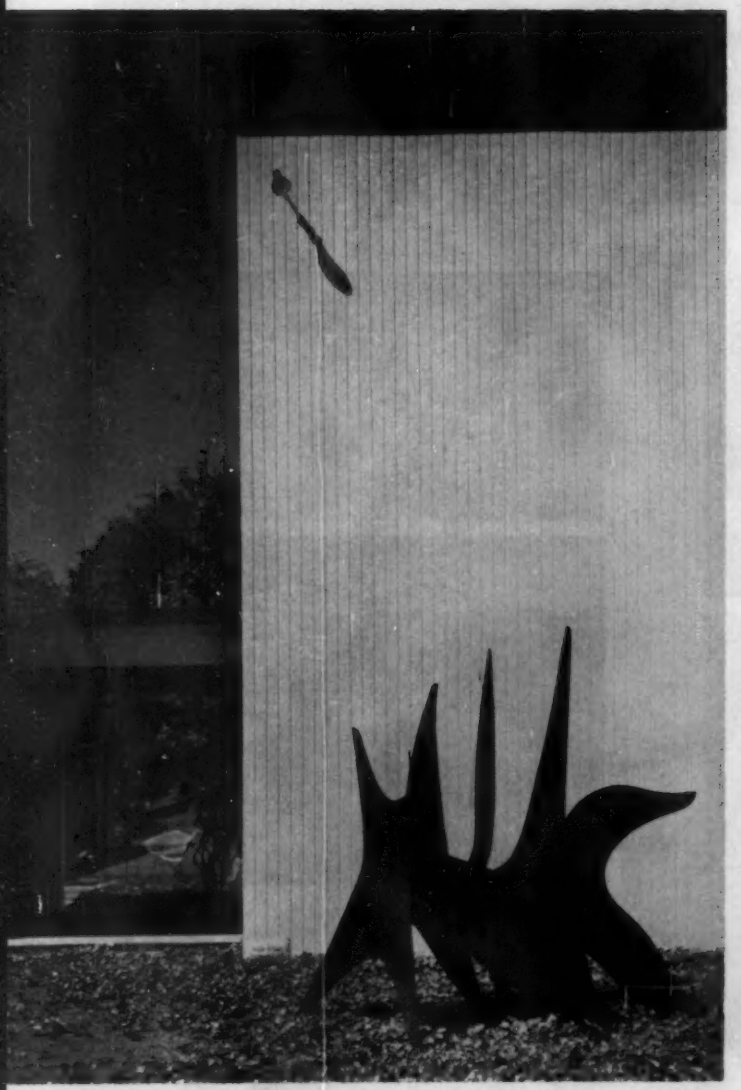
From concrete bubble-house to aluminum and plastic dream home



Adapted as a campus-plan school

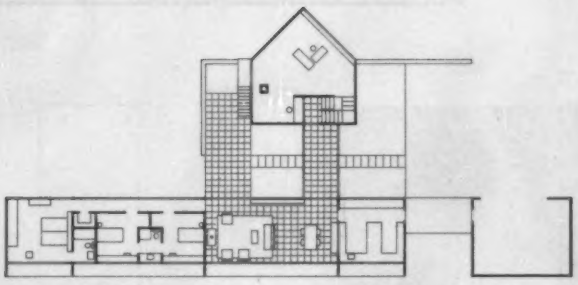
Evolved into the GE "Wonder Home of 1964"—aluminum ribs and plastic shells

Eliot Noyes



House

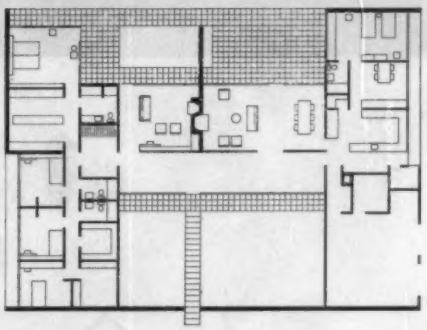
The Austin Briggs House, Redding, Conn. The problem of designing — for an artist — both living and working space in the country



All photos by Ben Schnall

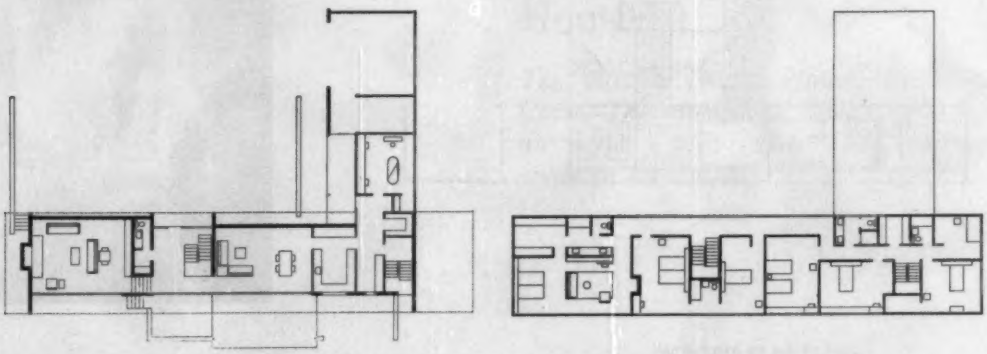
The Lee Ault House, New Canaan, Conn.

André Kertész—courtesy House and Garden



Four Houses

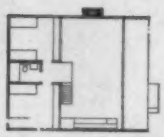
Of varied size, shape, and degree of formality—but having in common carefully articulated plan organization within clean, simple forms

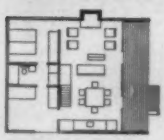


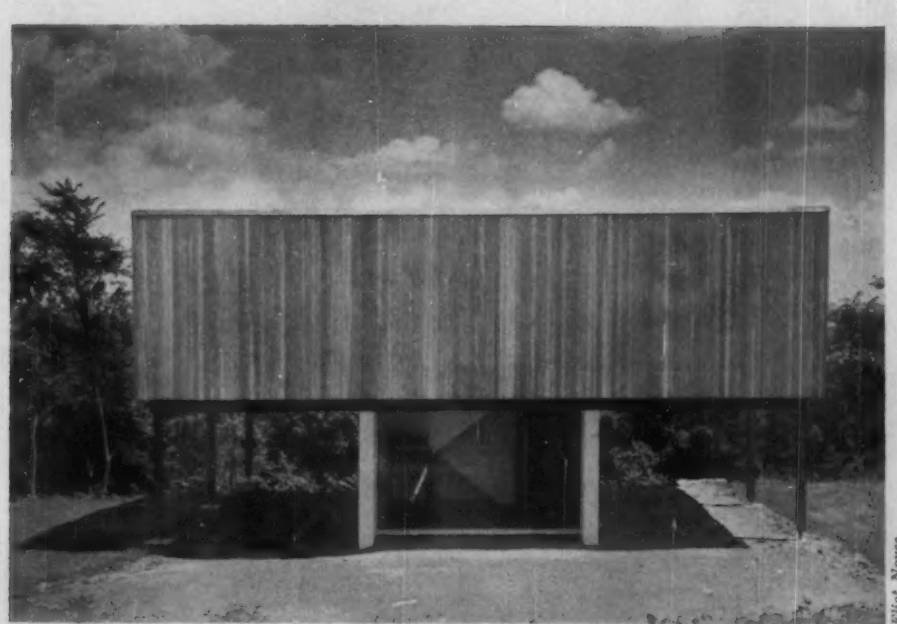
The John Hersey House, Fairfield, Conn.

Ben Schnall

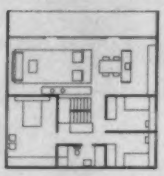
Eliot Noyes Summer Home, Martha's Vineyard







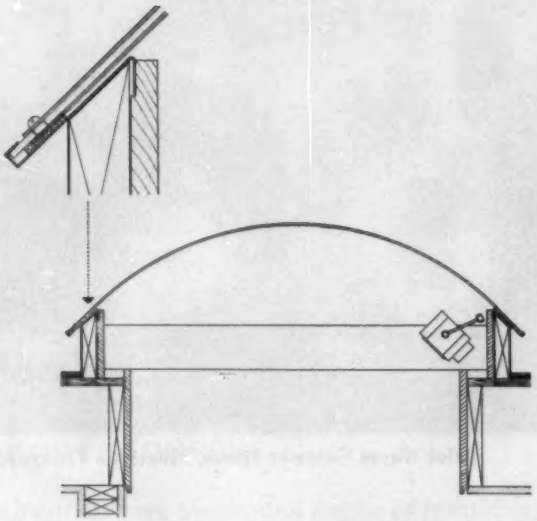
The Werner Buckholz House, Poughkeepsie, N. Y.

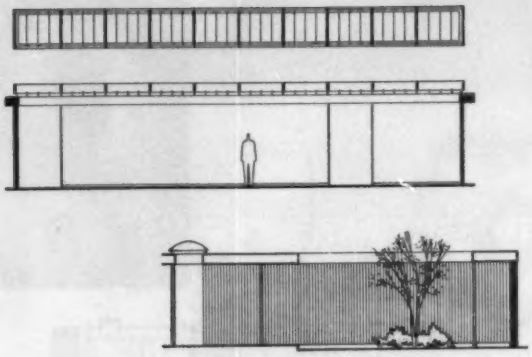


Eliot Noyes

Typical Details

That hold both esthetic and constructional interest

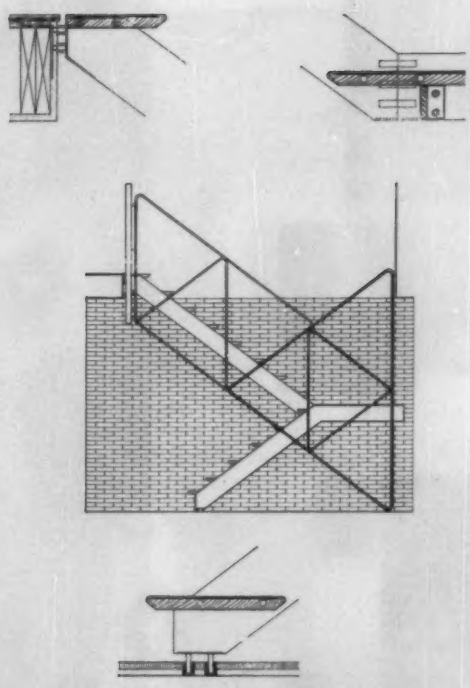




Skylight—Ault House; see page 174

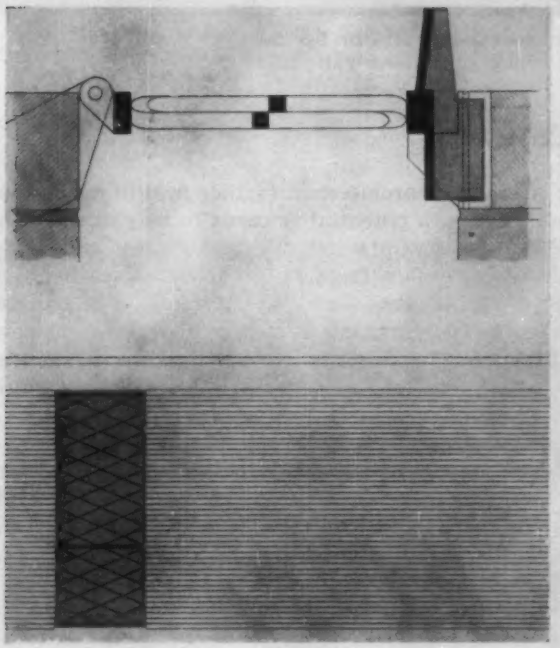
André Kertész—courtesy House and Garden

Ben Schnall

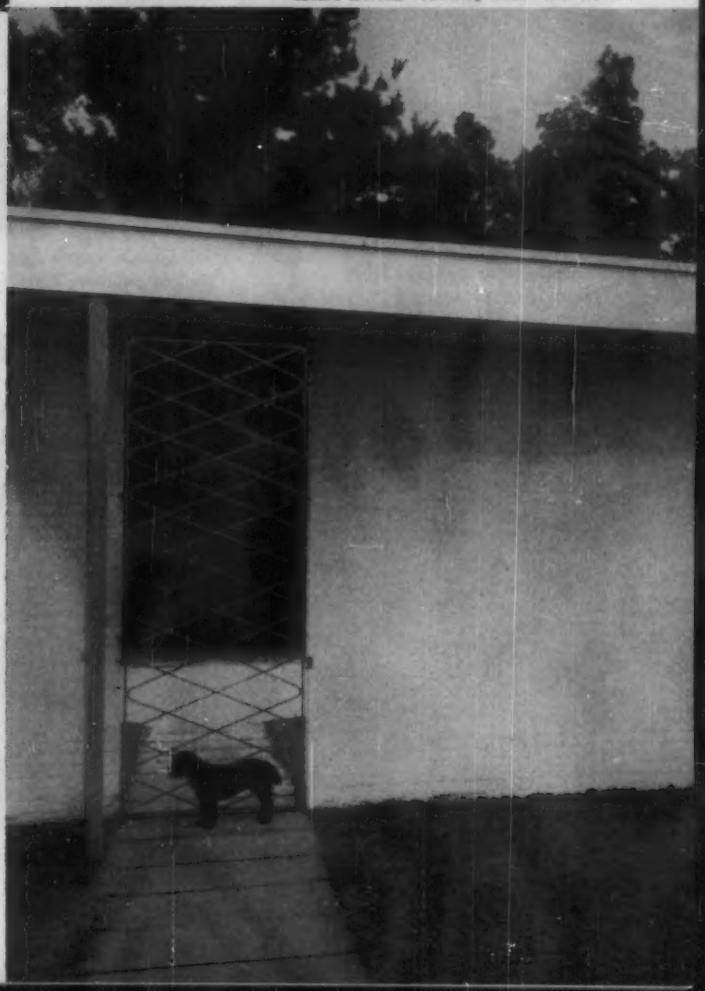


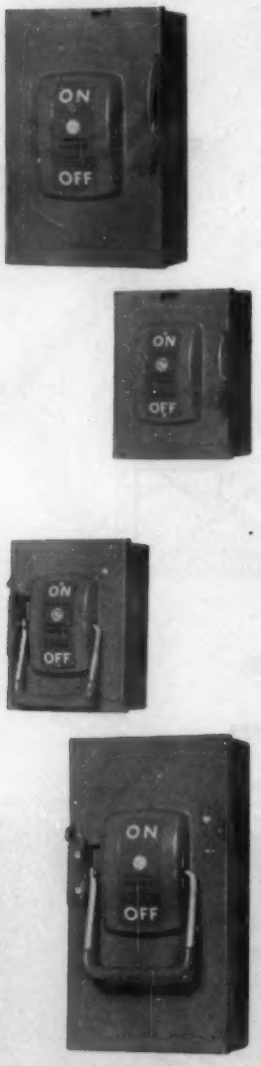
Stair—Hersey House; see page 174

André Kertész—courtesy House and Garden



Courtyard Gate—Ault House; see page 174





GE Photos

New circuit breakers and switches for General Electric soon to appear

Eliot Noyes

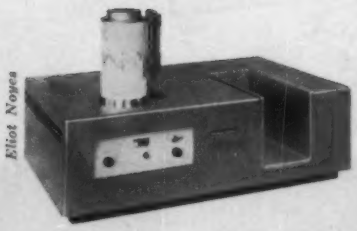
Adjustabie earphones and five-language selector box for Eames cartoon film, IBM Building, Brussels Fair, 1958

Industrial Design

Designing for industry offers to all architects a further field in which their talents can be employed. There are potential rewards to be gained in this area—both esthetic and in breadth of practice.

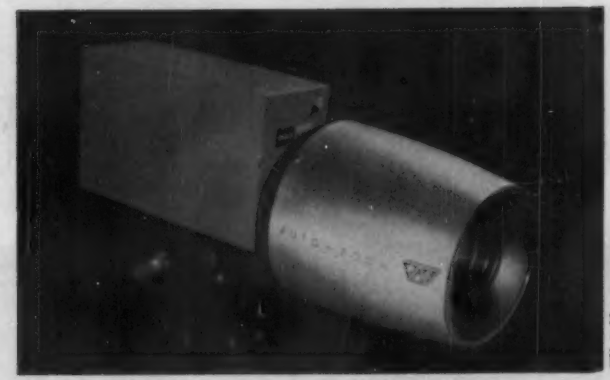
Noyes approaches industrial design from an architectural rather than an economic base. Styled obsolescence—and all it implies—is frowned upon. The emphasis is rather upon the consideration of the product in basic terms; much as though such an object had never existed before, and must be an expression of function, manufacturing processes, and materials in a form most suitable to such needs, operations, and stuffs. There is no idea that here is "this year's" or "next year's" model. The IBM electric typewriter—designed by Noyes some odd 10 years ago—is a case in point. This product has survived to become almost a classic of its kind, and is still going strong.

Noyes holds the further belief that industrial products cannot exist for themselves alone, but must be conceived as elements or objects within a building or planned milieu.



Eliot Noyes

Infracord for Perkin-Elmer

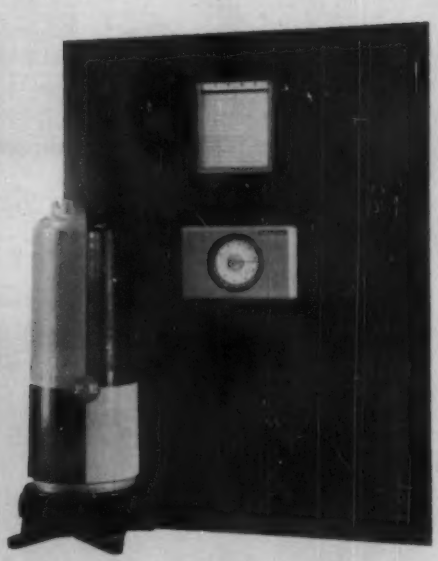


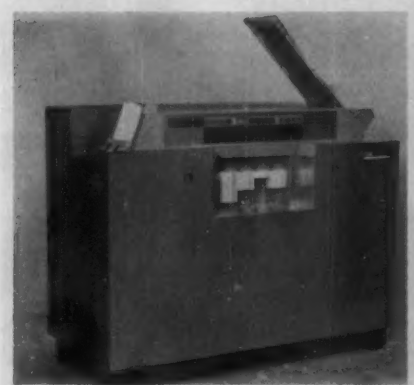
Eliot Noyes

Auto-zoom TV camera lens for Perkin-Elmer

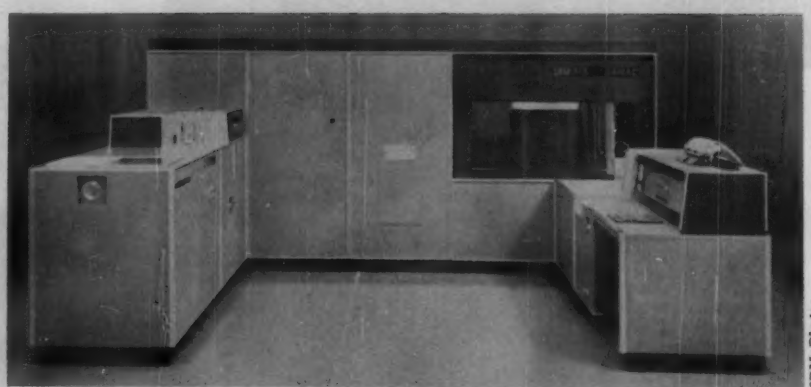
Eliot Noyes

Above, The Programmer for the (right)
Perkin-Elmer Process Vapor Fractometer





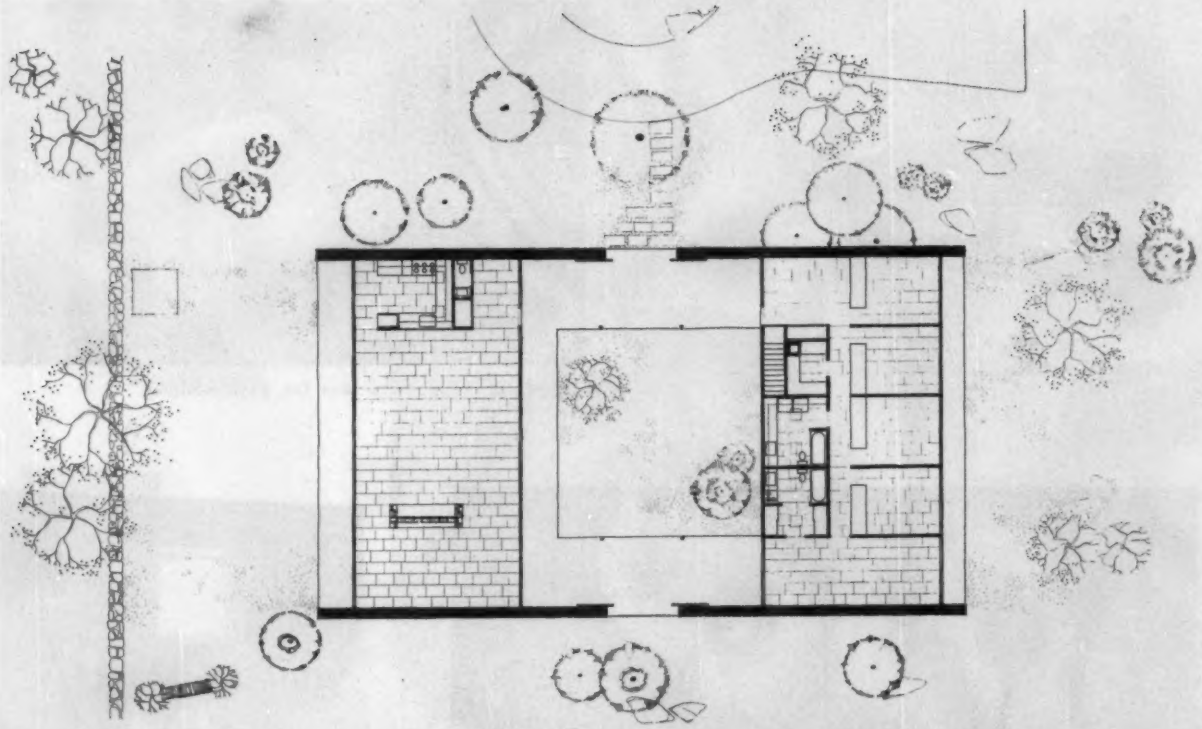
IBM No. 088 Collator



IBM Photos

Standard IBM Ramac. Joint project by Eliot Noyes, consultant director of design, IBM; Sundberg-Ferar, industrial designers; and the IBM design staff

Eliot Noyes



The architect's own house in New Canaan, Conn., recipient of several awards (Record Houses of 1957, pp. 124-128)

© *Ezra Stoller*

HOSPITAL BASED ON RESEARCH

DAVIS MEDICAL FOUNDATION, MARION, INDIANA

ARCHITECTS: Harry Weese, Bruce Adams, John van der Meulen

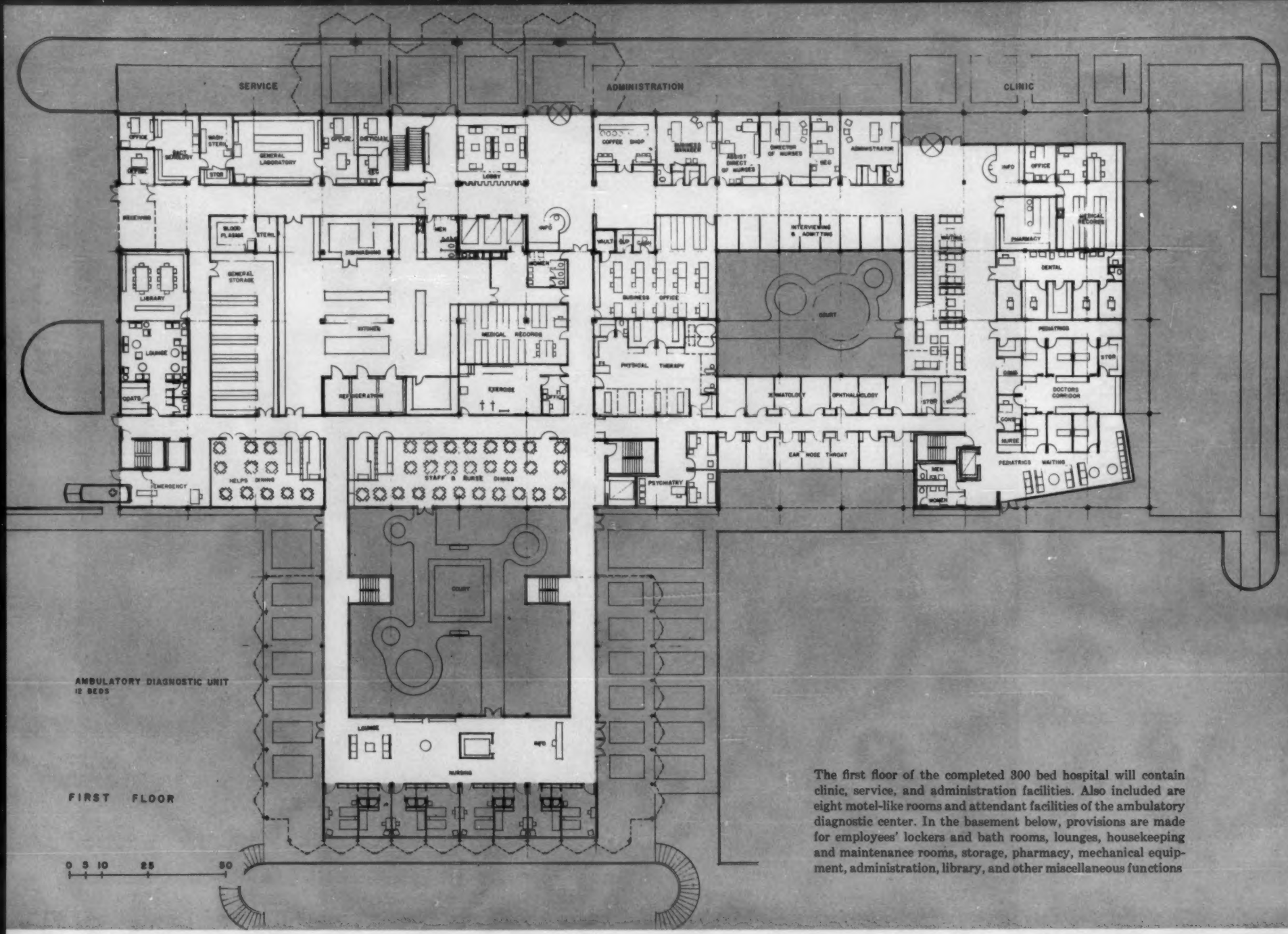
ASSOCIATE: John Dinkeloo

PLANNING CONSULTANT: Carl W. Walter, M.D.

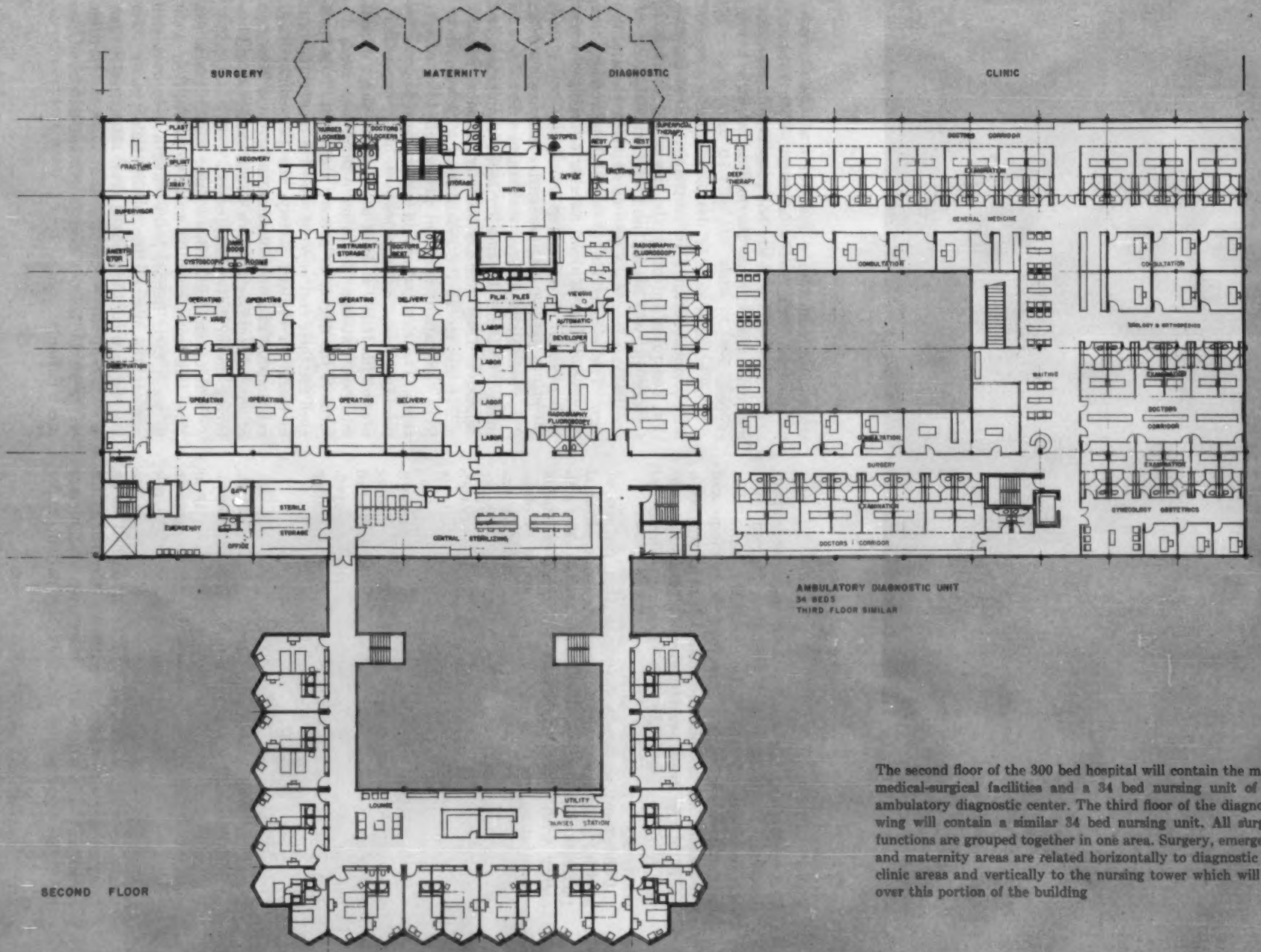
ADMINISTRATION CONSULTANT: A. C. O'Connor

STRUCTURAL ENGINEER: Frank J. Kornacker

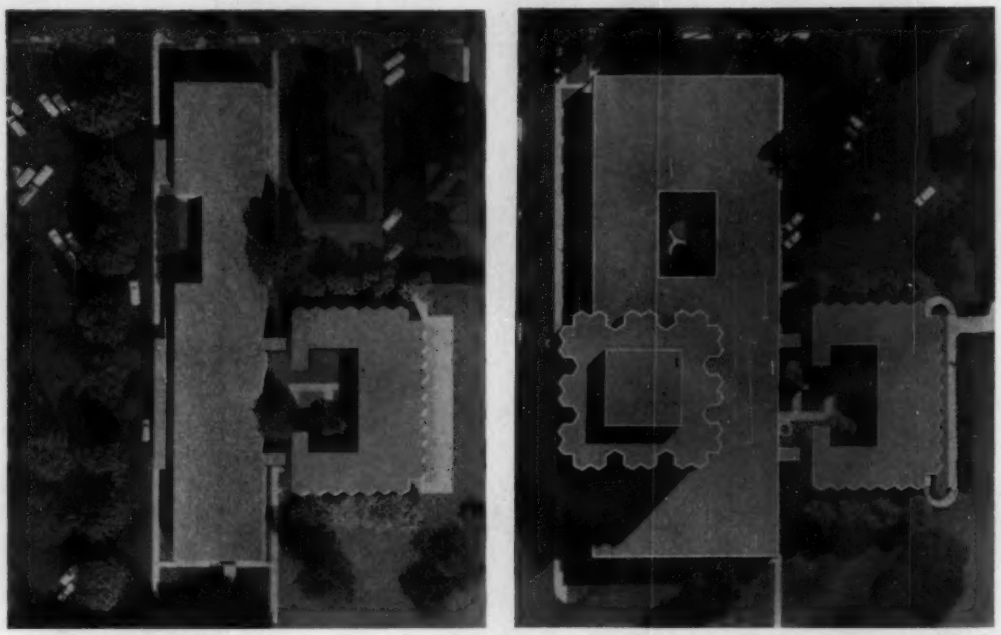
MECHANICAL ENGINEER: Samuel R. Lewis



The first floor of the completed 300 bed hospital will contain clinic, service, and administration facilities. Also included are eight motel-like rooms and attendant facilities of the ambulatory diagnostic center. In the basement below, provisions are made for employees' lockers and bath rooms, lounges, housekeeping and maintenance rooms, storage, pharmacy, mechanical equipment, administration, library, and other miscellaneous functions



The second floor of the 300 bed hospital will contain the major medical-surgical facilities and a 34 bed nursing unit of the ambulatory diagnostic center. The third floor of the diagnostic wing will contain a similar 34 bed nursing unit. All surgical functions are grouped together in one area. Surgery, emergency and maternity areas are related horizontally to diagnostic and clinic areas and vertically to the nursing tower which will rise over this portion of the building



Orderly growth of the hospital is made possible by the scheme for 80 beds, shown at the left, with provisions for eventual expansion to 300 beds with additional medical and surgical facilities at a later time. The final layout is shown at the right. Separation of the 80 bed wing and the future nursing tower will permit the additions to be made with minimum disturbance to the patients and staff using the 80 bed complex

THE PROBLEM:

The research and design for the hospital were sponsored by Davis Medical Foundation, Marion, Ind. Its president, Merrill S. Davis, M.D., says: "Remarkable advances have been made in medicine and its related sciences in the past fifteen years. As a result of the great strides, virtually every community in this country can have the very best medical care.

"The most apparent defect in this picture of medical progress is the failure to provide physical facilities which are economically feasible. The efficiency with which physicians and their assistants can function has been greatly handicapped by obsolete design. Patient comfort and provisions for expansion have often been overlooked. The need for an entirely new concept for the design, construction, maintenance, and operation of hospitals is apparent.

"The Davis Medical Foundation has sponsored a study of these problems. The work has been going on for five years. To confirm the opinions developed through the research, consultants were employed. This hospital design is the result of the translation of their studies into a concrete proposal."

THE CRITERIA:

The Planning Consultant, Carl W. Walter, M.D., says: "Planning a general hospital for wage earners in a community has increased in complexity as medical care has improved due to the increase in medical knowledge and to appreciation of the role that personality plays in disease. Care of the patients as a whole can only be accomplished in an integrated unit where a patient's physician, his consultant specialists and laboratory technicians have the opportunity to study the patient under optimum circumstances and where all the diagnostic facilities are readily at hand. With fatigued, anxious patients who are not properly prepared for medical examinations, the medical staff is handicapped.

"The hospital care of the patient has undergone an enormous change in emphasis. Early ambulation, control of infection, the role of the psychiatric factors in well-being, and the maintenance of homeostasis introduce new concepts in hospital design. The elaboration of medical technology and the development of team nursing all bring changes to the design of a nursing unit.

"The ill patient is apprehensive and anxious. The stress stimulates defense mechanisms. Personalities change. Patients become irritable, suspicious, and defensive. They long for security; in most people's minds this means the seclusion of a private room. Here the patient can find protection from annoyances. The sick patient in our culture appreciates privacy because he is as loath to inflict unpleasantness on his fellow as he is unwilling to share others' miseries. Patients like to have their own needs determine the degree of privacy they wish. It is their need for their rest or sleep which is most important to them. In modern society, the physician-patient relationship can only blossom in privacy. The days of sharing confidences in a noisy ward with a blustering doctor have disappeared.

"Habits among patients are deeply ingrained. They like fresh, running water to drink; they want to wash their hands. Many have a deep revulsion against the use of the public toilet; they have learned to wash their hands after attending to their sanitary needs. A hospital that does not provide water at the bedside and individual toilets offends most patients.

"As patients get better they like to roam. Exercise aids in bodily functions. Most convalescent patients are gregarious. They like to exchange experiences with their fellows; they like to eat together. Ultimately, they develop the urge to help others. This means that hospitals must provide Commons Rooms where these activities can occur under supervision."

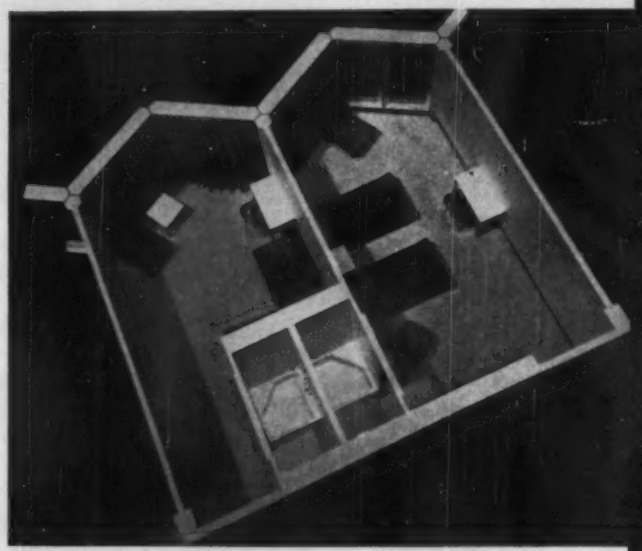
The architects, Harry Weese, Bruce Adams, and John van der Meulen and associate, John Dinkeloo, say: "The Davis Medical Foundation wanted to achieve a hospital design based on their long research, one which would solve the Marion, Ind., community medical problems in a manner consistent with advances in medicine, hospital organization and design, and long-range community planning. The Foundation's research indicated that there would soon be a need in the community for a general hospital of 300 beds to supplement the already overcrowded city hospital.

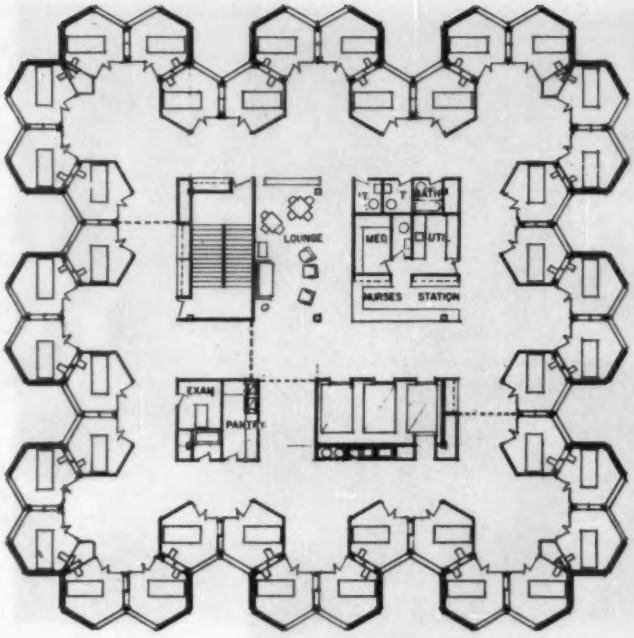
"The new hospital, planned to be located at the site of the existing Foundation clinic, is the answer to the needs set forth in the program developed by the planning team. The advanced ideas in hospital organization and planning of Dr. Carl Walter of the Harvard Medical School staff are responsible for many of the differences in this scheme.

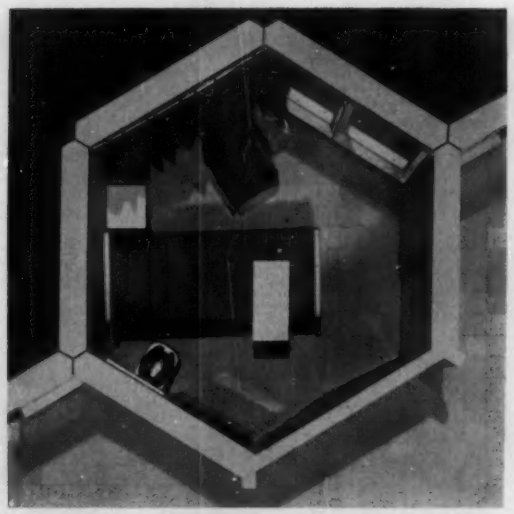
"The hospital scheme assumes that the Foundation acquire more land at their present attractive site (as they have already begun to do) and that they maintain their practice in the existing facilities while the new hospital is under construction. The site is located on the north bank of a river a few blocks away from the center of the town. The only unusual site planning problem is the danger of flood which limits the lower level of the building to non-critical uses."

Hospital Based on Research

The eighty rooms of the original construction, shown below, will be converted to the use of ambulatory or convalescent patients after construction of the nursing tower. These rooms are like motel or hotel rooms, each with a private bath, parking nearby and a view of the river. Patients here will ordinarily walk to the dining rooms, recreation areas and medical facility spaces. Many patients will be able to come and go at will when not being treated or examined.







Each floor of the tower contains 40 beds in private rooms. The planning team felt that this was the optimum size for a nursing unit. Each room is equipped with a built-in toilet-lavatory at the bedside. These fold into the wall when not actually in use

THE SOLUTION:

The planning consultant, Dr. Walter, says: "The design joins a group practice clinic with diagnostic and consultation facilities, a motel-like ambulatory diagnostic unit, and a hospital to provide the facilities for the physician to care for his patients under ideal circumstances. Ample parking space assures an unharrassed arrival, the ambulatory diagnostic unit gives opportunity for overnight preparation and collection of laboratory samples in the resting state, and private consultation rooms are an enormous aid in arriving at a proper diagnosis. Well-equipped examining rooms, where consultation with specialists is easy and where diagnostic procedures can be carried out quickly by the interested physician, save the patient time and inconvenience and add to the ease of caring for patients by supplying the necessary information while the physician's interest in that particular patient is at its height.

"The ambulatory diagnostic unit accommodations also provide minimal care facilities for patients who are recovering from a procedure, those who are being rehabilitated in the physiotherapy department, or chronic care patients who return periodically for observation.

"The design gives expression to patient needs by providing well-equipped, small, private rooms. The hexagonal-shaped rooms have working spaces at the sides of the beds, provide running water within easy reach of every patient, and enable him to use the toilet, adequately screened by a sturdy partition. Odor and noise are eliminated by proper ventilation and acoustic treatment. The maximum of privacy is afforded by the location of the bed. The properly placed window permits the patient to see the landscape without being exposed mercilessly to the sun or light.

"Nursing care is facilitated by shortening the path between patients and the source of supply by grouping the hexagonal-shaped rooms about a short working corridor. The doors to each room are located so that the nurse can readily inspect each patient without disturbing him. In this way many patients can be checked by nurses while en route to another destination. Isolation of the nursing floors from the remainder of the hospital insures quiet and permits exploitation of mechanical services in providing food and care for dishes.

"Functional grouping of the high traffic areas, such as X-ray, physiotherapy, kitchen-dining areas, laboratories, operating and delivery rooms, and clinics on two floors, permit concentration of hospital activities in a manageable unit where expansion or change, wrought by progress, can be accomplished without disturbing the nursing areas."

The architects say: "Noteworthy qualities of this hospital include integration of the various functions of a complete medical center, separation of seriously ill patients from convalescent or ambulatory patients, consolidation of surgical functions in one area, nursing units of 40 beds each grouped around nursing service cores, the motel-like ambulatory patients' rooms, and provision for orderly expansion.

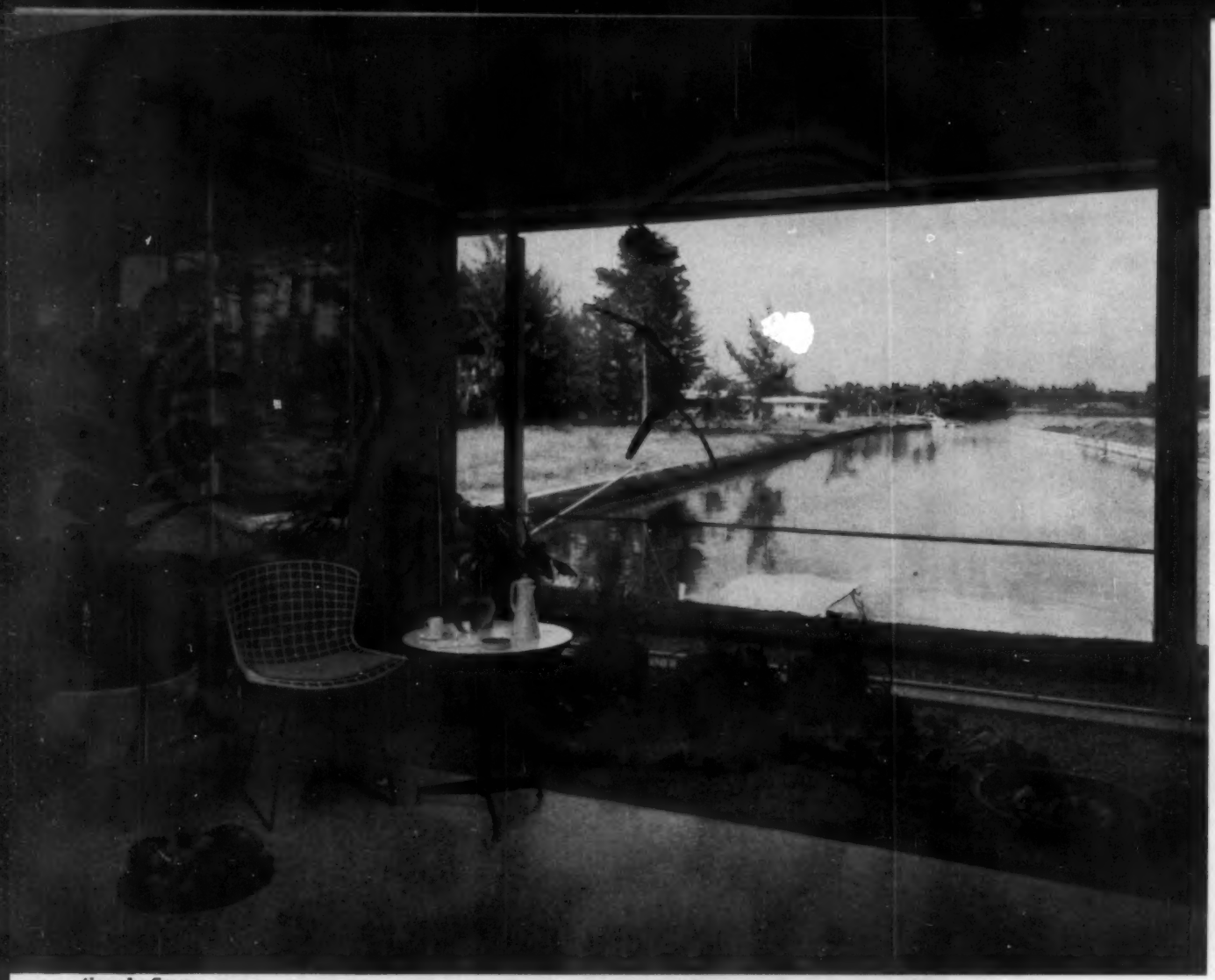
"The clinic areas relate to diagnostic facilities which in turn relate to surgical and nursing areas in a close and direct way. Administration areas are grouped at the entrance between the clinic and nursing elements. Service areas are related directly to their uses.

"The nursing floors contain the most apparent changes from existing standards. All seriously ill patients will be provided with single rooms grouped together to allow maximum supervision with minimum travel by the nurses."

Alexandre Georges

8 HOUSES

Designed and Built With Budget in Mind



Alexandre Georges

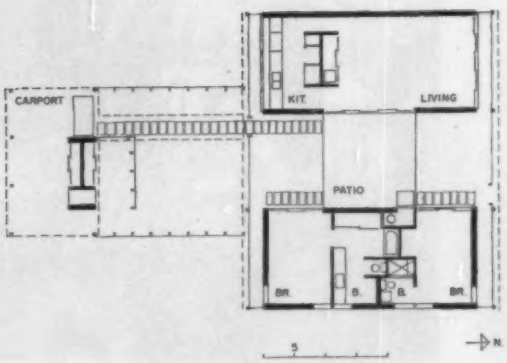
1. Paul Rudolph, Architect

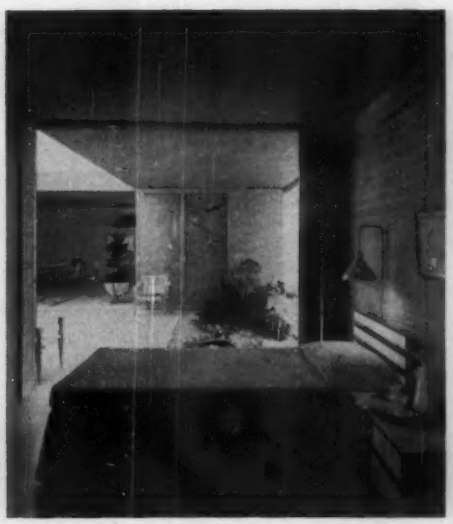
Venice, Florida. Mr. and Mrs. J. V. Taylor, Owners

A rectilinear plan, the use of relatively inexpensive materials, and especially the fact that the owner, in the words of the architect, "knew enough about human nature and building to serve as his own contractor," kept the cost of this house down to approximately $17,000 or $18,000.

The house is not large, but has a seeming spaciousness and a very real openness due largely to the patio at its center. This patio is open except for screening and has a domed roof of laminated ribs, and ¼-in. plate glass. Gravel walkways inside the screening along two sides of the house extend the space visually and make it possible to keep windows and doors open in inclement weather.

Unusual privacy is achieved by the unbroken long wall of the living room and the tomato-stick screens outside the bedroom doors and along both sides of the covered walk to the carport. Construction is wood frame on concrete slab with built-up roof; walls are masonry block.



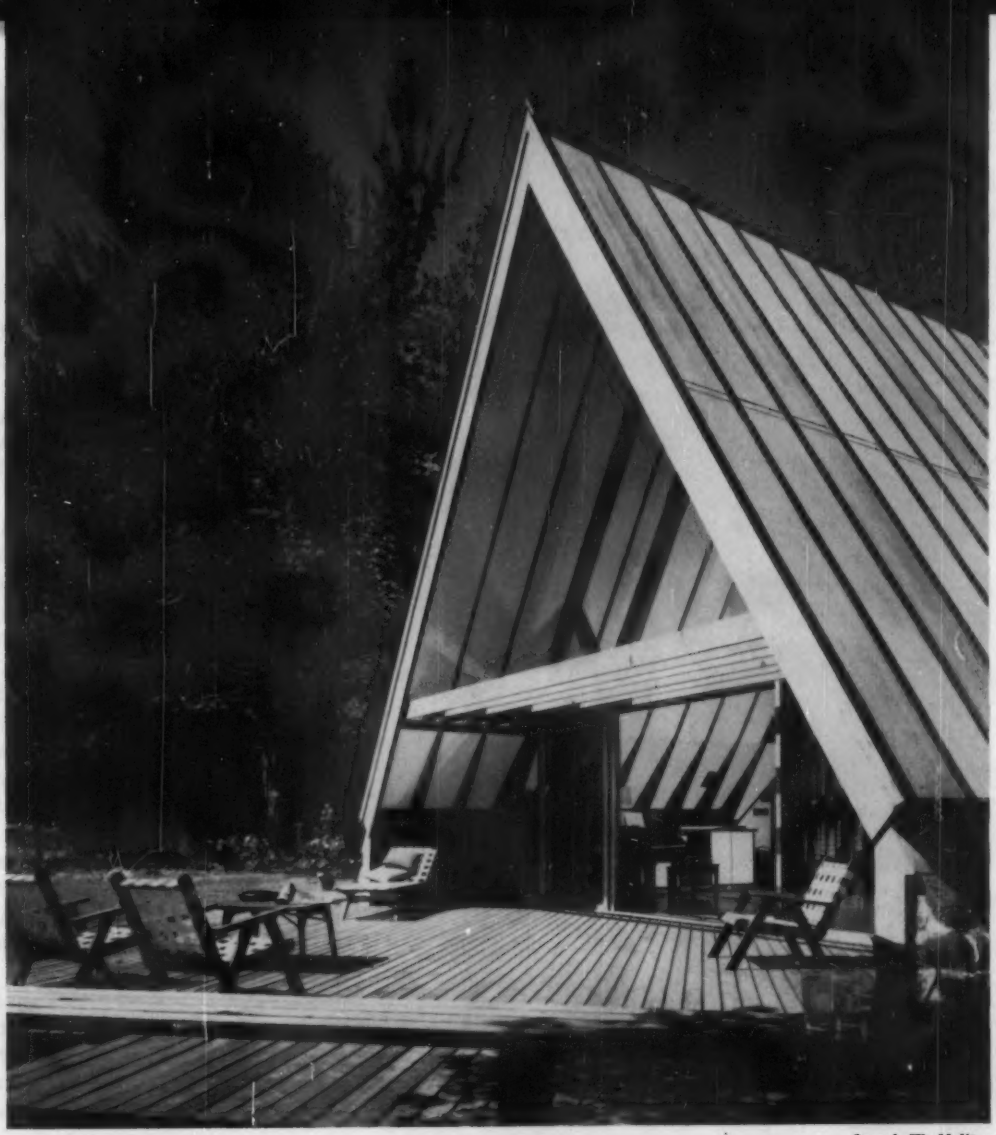


2. Thomas C. Babbitt, Architect

Litchfield, Conn. Thomas C. Babbitt, Owner;
Albert R. Treva, Contractor;
Nelva M. Weber, Landscape Architect

"This house," the architect explains, "is an attempt to find a form that is economical, and that feels warm and closed-in at night and in cold weather and open and spacious in the warm daylight; in short, a house for the New England climate. The roof that reaches almost to the ground encloses the space strongly, relieved and lightened in the daytime by the small glass lights at the eaves, yet giving a sense of warmth and shelter, especially at night, with the natural redwood trim and battens inside. The glass gable ends, on the other hand, 24 ft high, bring light from three sides into the main living space and make of it a light pavilion during the daytime. Added advantages of the height of the space are summer coolness and the feeling of space for large parties, although the room is comfortable in size for two as well.

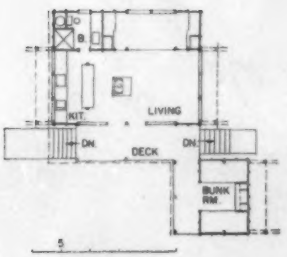
"The heating system is a forced warm air system with outlets in the floor beneath the glass. There is a small cellar, for mechanical equipment only, and the rest of the house is built over an insulated crawl space which is used as a warm air plenum. This lets some of the heat into the living space through radiation from the floor, which is therefore warm in spite of the high ceilings. The air return is near the ceiling in all cases." Cost was $27,962 excluding site work and services, or $13.41 per sq ft.



Joseph W. Molitor

3. George Matsumoto, Architect

Raleigh, North Carolina.
George Matsumoto and Frank Walser, Owners;
Frank Walser, Contractor; Interiors by Woman's Day.
Designed and built for Woman's Day
and the Douglas Fir Plywood Association



This compact and versatile vacation cottage was designed for *Woman's Day* magazine and the Douglas Fir Plywood Association as a "build-it-yourself" project to cost about $1500. The actual cost of the pioneer model shown here, however, was $7040.73—far above the original estimate because of the rush nature of the job (the magazine deadline) and various unexpected set-backs. Readily available materials had to be used because of the time factor: a better grade of plywood than planned, for example, ¾ in. thick instead of ⅝ in., and lumber which had to be trimmed down to the required lengths. The experimentation in painting and finishing which is almost inevitable in a pilot model boosted the cost of these items way above normal. To bring water to the site it was necessary to dig an unusual 144 feet, and plumbing costs were further increased by the need of a septic tank which ordinarily would not be in the budget.

"The cabin is dictated in design," the architect says, "by the plywood module; it has a steep roof to shed water easily, and the bunkhouse unit is the flexible unit which can be varied in design to meet varied needs. The bunkhouse is purposely detached so that children can go to sleep ahead of the adults and be reasonably separated from noise and light in the living unit." The cabin is braced in both directions for structural strength, and raised off the ground for protection against insects and moisture.

Joseph W. Molitor

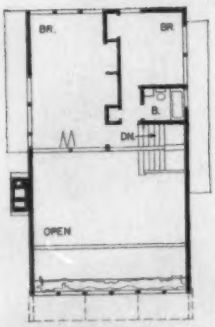
4. Olindo Grossi, Architect

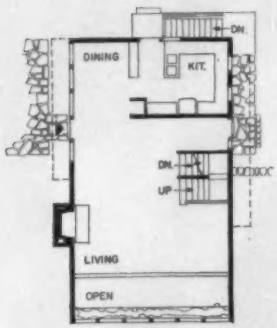
Weston, Conn. Mr. and Mrs. Eugene G. Reid, Owners; William McGuiness, Engineer; John Bross, Contractor

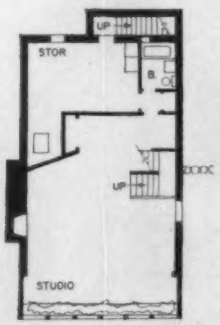
"Economically this house worked out quite well," says the architect, Dean of the School of Architecture at Pratt Institute. "It is a simple rectangle in plan, 24 ft by 42 ft 4 in. There are 876 sq ft on the main floor, 504 sq ft on the bedroom floor and 920 sq ft on the lowest floor, counting the studio and bath at full value and the storage at half value. This adds up to a total square footage of 2300 which averaged out to a neat $10.50 per square foot, excluding well, long driveway, etc., by owner."

The double-balconied plan derives from the clients' basic requirements: a large sense of space with which they associated a bedroom balcony; and a studio for the owner's wife, who is a painter. Only two bedrooms were needed since there is just one child, but plans call for the addition of two more bedrooms and a bath in a separate structure linked with the main entrance.

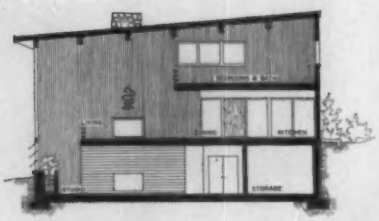
Construction is wood frame on a concrete block foundation with exterior walls of vertical pine siding. Interior wall surfaces are vertical cypress in the living areas, gypsum wallboard and/or ceramic tile in kitchen and bathrooms. A flat L-shaped steel fish plate was concealed at each head corner of the all-glass south wall to prevent vibration from strong winds.







Joseph W. Molitor



Alexandre Georges

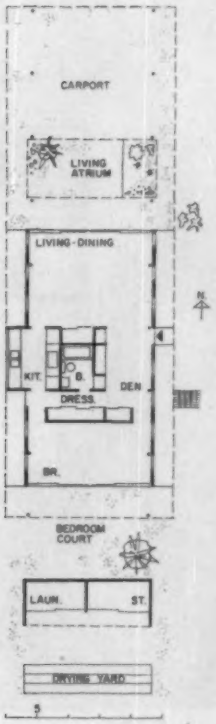
5. Mark Hampton, Architect

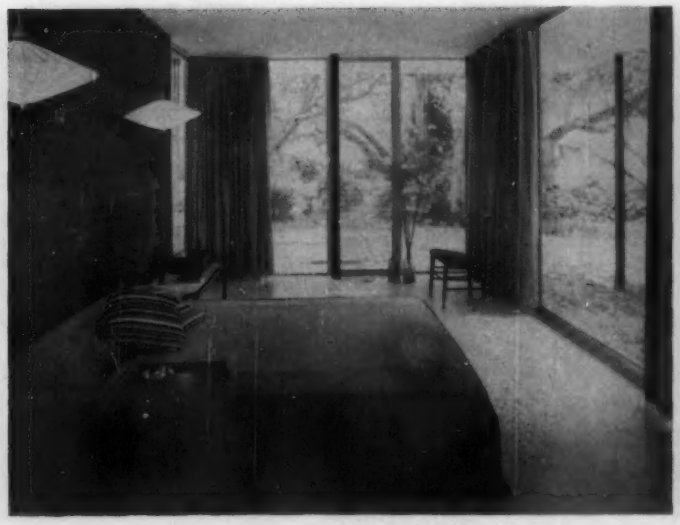
St. Petersburg, Fla. Joseph McBath, Owner; Phill Hall, Interiors

The fact that the owner had both the time and the ability to do his own subcontracting was one of the most important factors in keeping the cost of this house down to $9.63 per square foot. Other cost-saving measures reported by the architect were: the use of monolithic terrazzo floors throughout (low-cost locally); radiant electric heat throughout; one size standard jalousie unit and fixed glass unit which enabled one subcontractor to erect almost all of the long east and west elevations; and an inexpensive repetitive structural system.

The site, a suburban lot measuring 50 by 40 ft with several very large trees along its eastern edge, was not a natural one for the glass-walled house required by the clients. A further complication was the absolutely essential separation of master bedroom from the rest of the house since the owner works at night every other month. The solution was a long narrow house placed as closely as possible to the western border of the property, with living room and bedroom opening to small courts formed by carport and storage room walls respectively.

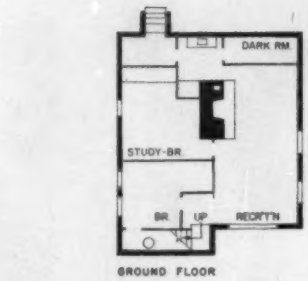
Construction is steel beams supported by 3-in. pipe columns on 10-ft centers; 10-ft wood joists frame into the wide flange sections of the beams. Copper-colored grasscloth was used on solid walls in living room and bedroom to tie in with the redwood screens on the exterior. Cost of the house excluding land and architect's fee: $14,735.42.

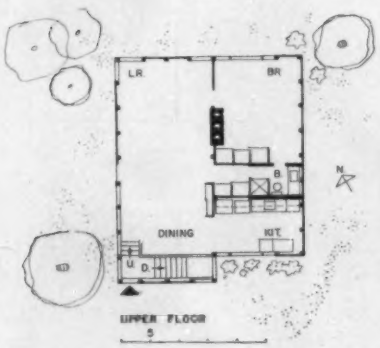




6. Designers & Builders, Architects

Weston, Conn.; Mr. and Mrs. Grant Taylor, Owners; Designers & Builders, Contractors





The foundation, stone fireplace and chimney place intended for a "builder's Cape Cod" were already in position when the owners of this house bought the property. Since the budget dictated strict economy, the house was designed around these existing elements, and exposed structural fir was used throughout. "We could not afford to hide *anything*," the architects say. Plasterboard sandwich panels were used on the outside face of 4 by 4 posts on 4-ft centers, shingled horizontally around the kitchen, bath and bedroom; set vertically in the big space; run in 9-ft panels up to the ridge of the living room roof; and cradled between flat beams on the rest of the roof.

"The owners wished all upper rooms to look west into the woods, and wanted the big space to seem to partake of the woods. Only small timbers were used to give the space lightness and delicacy. Trusses 4 ft o.c. made up only of double 2 by 6's separated by a flat 2 by 4 tie joined with four hardwood dowels at each end span the 16-ft-wide living room. The rafters were left separated at the peak to receive a continuous 2 by 6 ridge for continuity."

Cost of the house, excluding lot, landscaping and furnishings, was approximately $15,800. The owner since has completed redevelopment of the lower floor so that he now has almost 2000 sq ft of space at a construction cost of less than $18,000.

Joseph W. Molitor

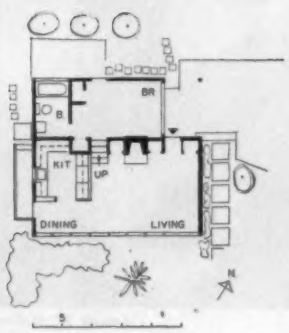
7. Henry Hill, Architect

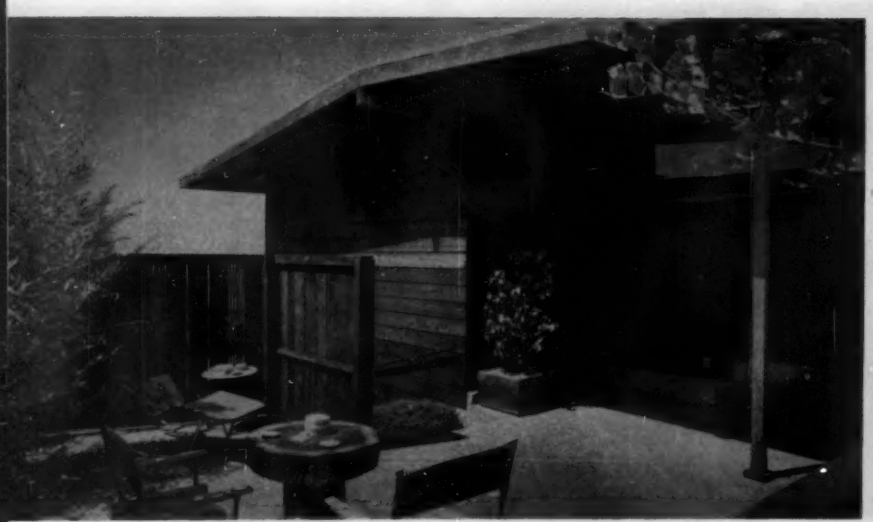
Berkeley, Calif; Miss Shirley Todd, Owner;
Eckbo, Royston and Williams, Landscape Architects;
B. J. Teigland, Contractor

"Are architects for people like me?" That was the question the owner of this house hesitantly asked her architect on her first meeting with him when she listed her requirements and put her budget at an all-inclusive $10,000 maximum. The architect gave her an immediate and emphatic answer in the affirmative, and subsequently proved his point with the house shown on these two pages: exactly what she wanted, for $200 under her budget, or $9800 including lot and architect's fee.

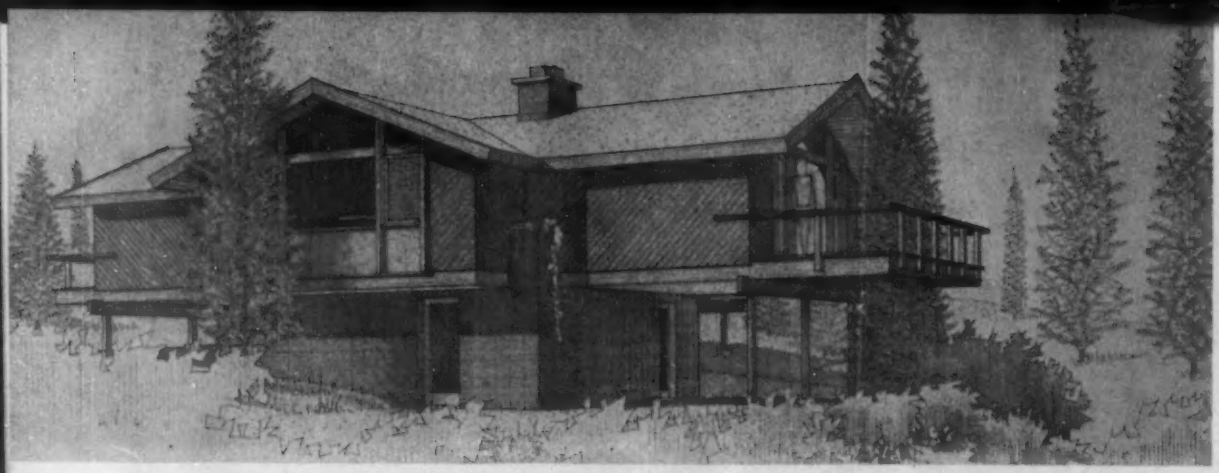
The house is very small—one reason for its low cost—but seems surprisingly large because of its open plan. The bedroom is several steps above the living room area, following the contour of the land, and is separated from the living room only by the fireplace wall; even so, it has a strong feeling of privacy, enhanced by the small screened patio outside it and the adjoining bathroom.

Since the owner is a business woman living alone, ease of maintenance was a major factor in the design and planning of the house. Materials were chosen for easy upkeep, and landscaping was limited to low shrubs in front of the house which would not interfere with the view, a simple ground cover which would need minimum attention, and a small planting area at the rear of the lot.





Roger Sturtevant

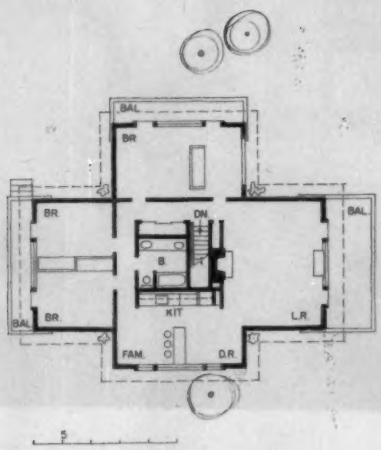


8. Richard B. McCurdy, Architect

Orange, Conn. Mr. and Mrs. Fred C. Emmons, Owners.
Richard B. McCurdy, Contractor

Joseph W. Molitor

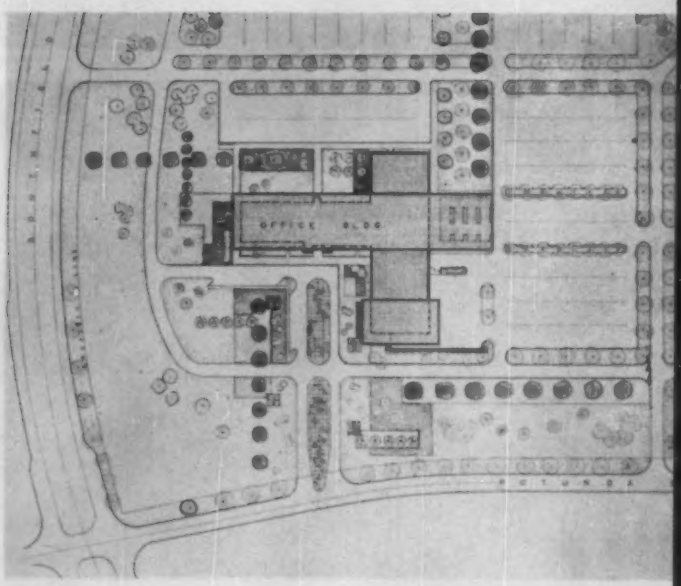
The main features of economy in the design of this house, writes the architect, were "the flat plate roof construction, the use of the alcove kitchen, the very small bedrooms, and the fact that standard dimension framing was used throughout instead of post and beam. Other design factors resulting in lower costs included: placing of all access and ventilation openings at gable ends, permitting unbroken solid walls at all eaves; use of tilt-up wall erection, walls being fabricated on the floor, completely framed and sheathed and painted while in a horizontal position; diagonal cedar sheathing left exposed as siding; all ventilation and access by means of jalousies set in doors, eliminating the necessity for screens, screen doors, and much finished carpentry; and concentration of all services and plumbing in the central area." Cost of the house, excluding lot, architect's fee, painting and landscaping, but including the complete built-in kitchen unit, was about $15,500.

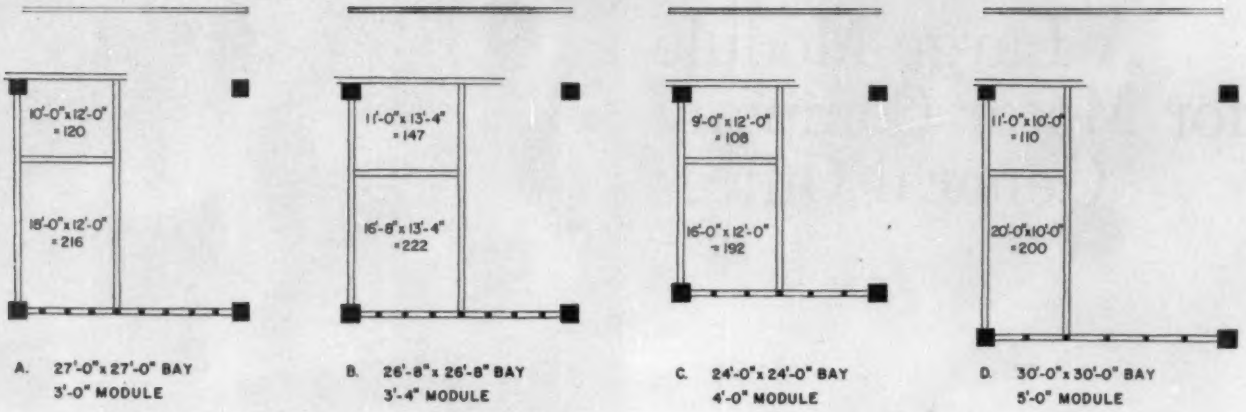


A Large Module for Motor Company General Offices

Hube Henry, Hedrich-Blessing

Ford Division, Ford Motor Company
General Office Building, Dearborn, Mich.
ARCHITECTS AND ENGINEERS:
Welton Becket and Associates
Albert Kahn Associated Architects and Engineers, Inc.
LANDSCAPE ARCHITECTS: *Cornell, Bridgers and Troller*
CONTRACTORS: *Bryant and Detwiler Company*



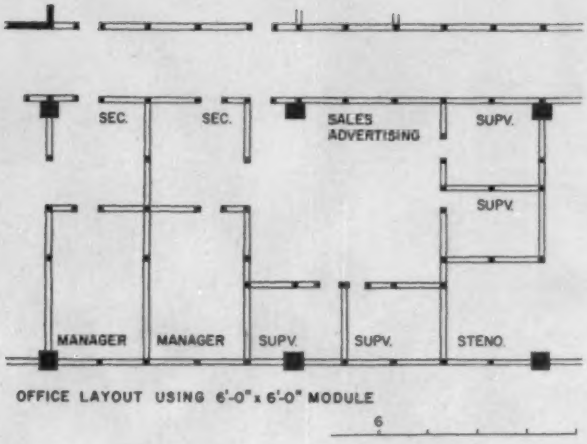


Planned for use by more than 2000 employes, the office is located on a 67 acre site. The building includes a five-story main section with basement and penthouse. A one-story wing on the south and a two-story wing at the front house permanent functions such as shipping departments, auditorium, and dining areas. Provisions are made for parking 2000 automobiles in close proximity to the building.

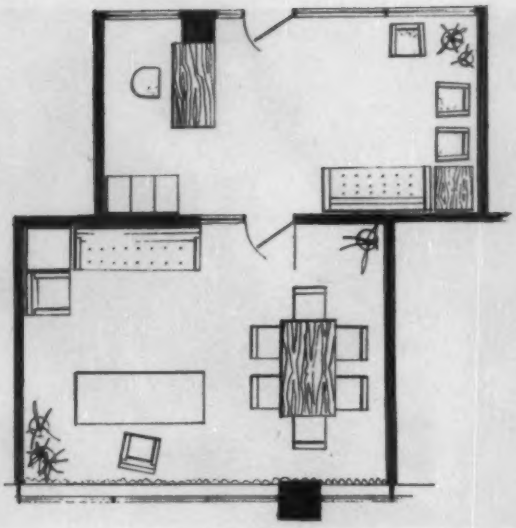
The building structure is reinforced concrete with 30- by 30-ft bays. The floors and roofs are waffle-type flat concrete slabs, with the exception of the cafeteria roof which is constructed of a series of thin-shell concrete barrel vaults. Exterior walls are aluminum curtain wall frames with inserts of porcelain-enameled metal and plate glass. Some portions of the ground-floor curtain wall are faced with ceramic tile, in colorful patterns. Masonry walls are used in the interior for enclosing stair wells, toilet facilities, mechanical rooms and the like. For flexibility, office partitions are movable and are constructed of wood and glass.

The architects prepared sun control studies for the building in order to determine if solar devices should be used for controlling heat on the walls and glare, and if so, what types of controls would best function for this climate. As the finished building shows, it was decided that horizontal floor projections would be employed together with groups of gold-anodized aluminum louvers. Careful study resulted in a system which the architects believe will almost completely exclude direct sunlight from the building. By holding the sun controls above eye-level, the view of the occupants is unimpeded.

Vertical transportation is provided by escalators. The architects felt that efficient use of escalators limited the maximum height to five stories. Heating and air conditioning are supplied through unlined ceiling acoustical tiles and unobtrusive metal enclosures under the windows.



OFFICE LAYOUT USING 6'-0" x 6'-0" MODULE



Hube Henry, Hedrich-Blessing

Before engaging architects the clients prepared a number of studies on the use of interior space. From these, a schedule of space allocations for executives and other employes was compiled. In order to make the spaces fit the clients' requirements, yet retain future flexibility, the architects studied many modules and bay sizes (figures A through D above), finally deciding upon the scheme used (6-ft module and with 3-ft submodule in a 30- by 30-ft bay). Also closely studied were the effects of different modules on the costs of lighting and heating installations. A saving of approximately 60 per cent of cost of wall heating units resulted from choice of 6 ft as compared to a 4-ft module. By placing lighting troffers on 6-ft centers (allowed by 6-ft module), rather than on closer centers, further savings were made. The module used allows movable partitions to be placed in almost any useful location, allowing for future rearrangement

Hube Henry, Hedrich-Blessing

The use of escalators for vertical transportation dictated the use of the lowest practical ceiling heights. Story heights of main building (including corridors) are 9 ft 4 in. from finished floor to ceilings to facilitate the future relocation of interior partitions. Greater heights are used in mechanical spaces, auditorium, dining rooms, and other specialized areas. Concerning the office interiors, the architects say, "our basic aim was to provide an atmosphere of quiet calm conducive to the type of concentrated intellectual activity for which the building was designed." In the public spaces, bright cheerful colors, natural wood, and textures are used in contrast to the more subdued treatment of the private areas. Typical treatment of a conference room, dining area, and a passageway are shown in the figures at left

East Grand Rapids Junior High School, Michigan Perkins & Will, Architects

SCHOOLS

CAFETERIA AND KITCHEN FACILITIES

Of the many facilities common to most types of schools, none is subject to as many current variations as those devoted to serving meals. They are being divided, subdivided, and combined with other functions in dual- to myriad-purpose arrangements. Kitchens range from complete restaurant set-ups to mere serving stations, with cooking done elsewhere. These pages present the basics of cafeteria and kitchen planning, and show some of the more interesting and pleasant new schemes.

BUILDING TYPES STUDY 264

®

Planning for Student Dining

By Charles William Brubaker,
Partner, Perkins & Will,
Architects-Engineers
Chicago and White Plains

Good planning can spell the difference between mid-day melee and a gracious meal. A successful kitchen-cafeteria relies upon the administrators' and architect's cooperative study and understanding. Never underestimate the invaluable help and suggestions of a qualified dietician who is familiar with the day to day problems. Many factors besides number and age of students to be fed determine the physical layout and the equipment to be provided. A check-list includes:

- what is the school board's philosophy on student feeding?
- will service be a one-meal luncheon? Multi-choice?
- will the cafeteria serve only a single function?
- is the cafeteria to double as study hall? Auditorium?
- will the kitchen provide after-school snacks? refreshments for student and public gatherings?
- what problems does the geographical location of the school present? any delivery problems? codes?
- how may advantages from the school's location be exploited?

When the aims of the school foods program have been fully determined, it is up to the architect to design and implement a kitchen and cafeteria which operate as a unit, smoothly and efficiently; which provide relaxed, pleasant dining. It is essential that the plan provide an easy flow of food processing.

Delivery and Storage Areas . . .

Routing begins outside. A loading platform is the point of delivery, and the point of pickup. Size of garbage and waste area depends upon frequency of pick-up. An incinerator is useful here. Full trailer delivery area is needed if school participates in government surplus food program. One outside entrance to kitchen can eliminate confusion. If direct-line layout is used, delivery men need never enter preparation area.

Refrigerated storage should be maintained at two temperatures: 40° to 50° F for daily-consumed foods, and —5° to 0° F in deep-freeze section. Walk-in refrigerators and freezers have new versatility. Carts containing food for overnight storage are pushed directly into walk-ins. Much of this is the result of preparing for more than one meal at a time. The curb at the walk-in has been eliminated: a 7-inch depression in the floor under the refrigerator and a 9-inch-deep cavity under the freezer allow for insulation and achieve a constant finish floor. Refrigerator shelving can be portable and adjustable. Strong, light, chromium-plated shelving is available.

Dry storage space is figured at ½ sq ft per meal daily, based on two weeks staple supply. Portable and adjustable metal enamel shelving or heavy duty mesh give flexibility. Four air changes per hour insure good ventilation; clearance between walls and shelving allows for cleaning. (Fig. 1.)

Non-food supplies should have a separate storage space.

Gordon Coster

Fig. 1. Dry storage, Lyons Township High School

Planned Preparation . . .

Controlled traffic and controlled sharing of equipment are layout aims. Four primary types of preparation are: cooking, baking, salad, vegetable. The cooks are usually centrally located. Their basic equipment includes kettle, steamer, ranges, roast ovens, ample table space with sink and undershelf, pan rack. Separate ovens, alongside hot top cooking ranges are now preferred for roasting. Consider wall-hung kettles and steamers. (Figs. 2 and 3.)

Vegetable preparation personnel share the cooks' mechani-

cal equipment. Their area is fitted with preparation table, shallow sinks and peeler (unless vegetables are packaged).

Salad preparation, often near vegetable preparation area, also requires separate table with overshelf, a shallow sink, access to a mixer, refrigerator and disposer. (Fig. 4.)

The baker's area is receiving more emphasis. "Home-baking" is a drawing power for students. Government surpluses make home-baking economical. One successful dietician remarked, "we can produce rolls for 1½ cents while a slice of commercial bread costs 2 cents." Baking equipment includes ovens (rotary ovens are fine if volume warrants) with spice bins above, flour and sugar bins below, bakers' table, mixer, cooling racks, sink, bakers' stove or kettle, and portable pastry trucks. (Fig. 5.)

Space and equipment for food preparation is calculated in terms of the number of children to be served and the type of service. Space for small kitchens may be from 2 to 2½ sq ft per meal served; less is needed for use of pre-prepared or frozen foods. When 2000 to 3000 persons are to be served, 1½ to 2 sq ft per meal is ample. This includes storage.

The law stresses cleanliness but why not more enamelled metals and rich red quarry tile or gay ceramic tile? Consider heavy flexible sheet vinyls applied to walls with mastic or vinyl-covered metal doors. Must wood and brick be totally excluded? If properly designed and executed, a kitchen can be both clean and gay. Admit that a lot of time will be spent cleaning the preparation area every day, so think of how things can be cleaned: hosed down, wiped off, scraped, polished, scrubbed, etc. Airborne grease is trapped in the filters, waterborne in grease traps. Make them easy to get at, or locate as manholes outside. Free-standing equipment can be cleaned on all sides. Remember floor drains. (Fig. 6.)

Lunch is Served . . .

Orientation of kitchen to cafeteria is effected by placement of serving line(s), and establishes the atmosphere of the dining area. A partition between the serving counter and dining area will screen noise and motion of serving. The serving counter is a display case as well as a cafeteria line. Good serving facilities give students a lunch which has retained its original appearance, flavor and temperature and provides it for them quickly and efficiently. The average lunch period is 30 minutes long. Students are cheated if they must spend the majority of that time waiting for their lunch. Six persons pass through an average multi-luncheon serving line per minute; eight through a one-meal luncheon serving line. Consider an item-adding cash register for every serving counter providing multi-meal lunches involving money changing. The maximum serving capacity of one counter in one lunch period should be recognized as 150 to 180 persons. Cross traffic is eliminated if lines are routed from hall entrances—considered desirable if lines may form in corridors, away from cafeteria. The average serving line includes: tray carts, silver carts; hot food units with glass protector; cold pan with glass display shelves; milk lowerator; ice-cream cabinet; cashier.

A six-ft serving counter may be adequate for a one-meal lunch when all students receive an identical tray of food. A twenty-four ft serving counter is required for a multi-meal lunch. Many kitchen experts feel that refrigerated cold trays

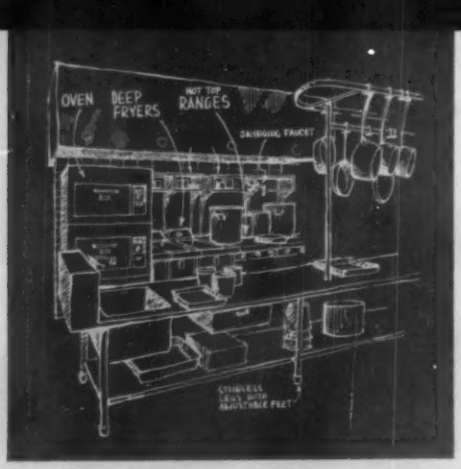


Fig. 2. Cooking center

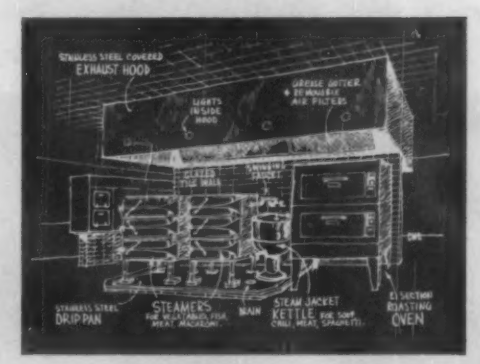


Fig. 3. Cooking center

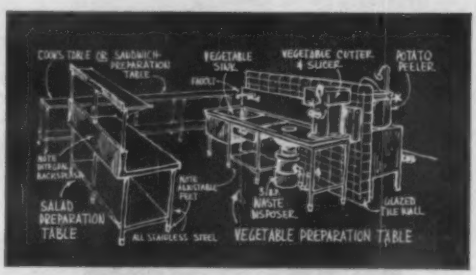


Fig. 4. Salad and vegetable center

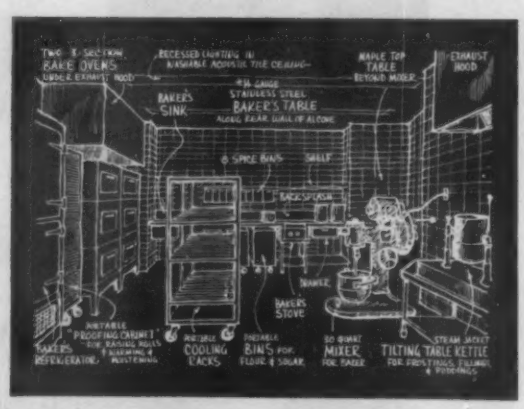


Fig. 5. Bakery center

Suter, Hedrich-Blessing

Fig. 6. Serving line, Milburn J. High School

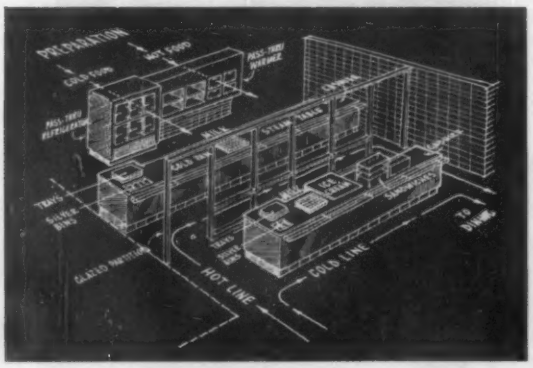


Fig. 7. Divided serving line

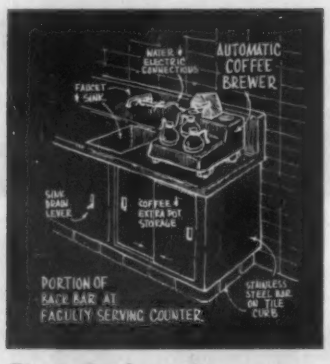


Fig. 8. Snack counter

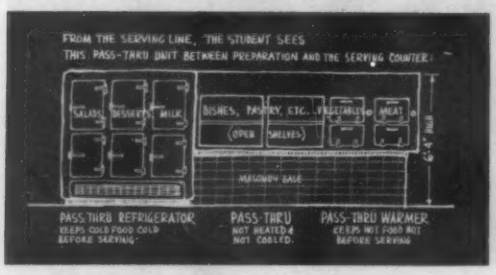


Fig. 9. Pass-through counters

are not necessary if kitchen and serving-line function smoothly. If lettuce, etc. is kept in refrigerators until serving time it will not wilt in the short time it is displayed. Vending machines may take the load off counters. Vending companies service their machines which may contain sandwiches, ice-cream, and even fruit. State codes govern use of these machines. (Figs. 7 and 8.)

At Proviso West High School, Hillside, Illinois and Linton High School, Schenectady, New York, cold and hot counters were separated, preventing bottlenecks. At Homewood-Flossmoor High School, Flossmoor, Illinois, one-meal luncheons will be served from a double setup. Trays at one side will contain dessert. Students preferring simple fare will pick up a tray without dessert at the opposite side.

Pass-thrus are an efficient way of quickly and easily replenishing a large cafeteria serving line. They also hide the preparation area and give ventilation. (Figs. 9 and 10.)

Relaxed Dining . . .

Cafeterias now double as study-halls, lecture rooms, gymnasiums, auditoriums, little theaters, public meeting rooms, television classrooms, etc. This is usually less satisfactory for dining, unless care is taken to insure the atmosphere.

Proper lighting has been determined at 20 foot candles if space is used as cafeteria only. If it is to be used as a study-hall, it should receive the same lighting as classrooms. To keep cafeteria odor-free, air is brought into cafeteria and exhausted through kitchen. Whether tables are permanent or wheel-away, keep them small to encourage quiet conversation; approximately 29 inches high for older children—24 inches high for younger children. Ample cafeteria space is necessary to prevent confusion: 12 to 15 sq ft per person. Folding partitions are useful for permitting cafeteria space to cater to more than one activity, and break up large cafeterias into smaller rooms. Huge cafeterias do not encourage relaxed dining. Any purpose the cafeteria is to serve, other than dining, will help determine the type of furniture required. (Fig. 11.) The so called "conventional" arrangement in which a kitchen and cafeteria are adjacent, separated by serving counters, is giving way to "remote-service." Central kitchens have been designed to handle numerous cafeterias.

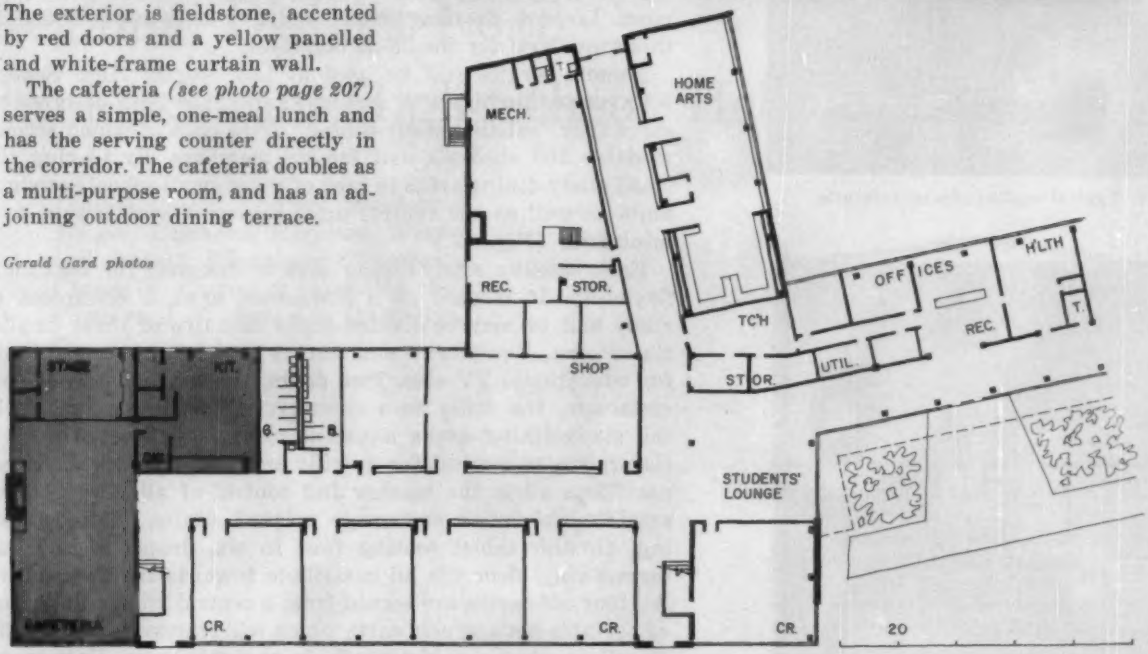
Portable equipment is the answer to challenges in remote service planning. Hot and cold food trucks, plus suitable vans to transport trucks from kitchen to other buildings are required. Serving counters under the separate roofs of campus style schools can be made up entirely of small portable items —hot food trucks, mild lowerator, ice-cream cabinet (or lowerator), etc.—all on wheels. These are filled in the kitchen and pushed to destinations; avoid steps intercepting routes. The whole concept of cafeterias has become one of a service agency for the educational process. The ratio of effectiveness in accomplishing this is inversely proportionate to the number served. The award-winning White Plains Senior High School, White Plains, New York, had to face this problem of "bigness." 2250 students will attend the school in its initial stage. To avoid mass confusion and anonymity of individuals, "divisional units" for 500 pupils each were designed. To retain "small school" atmosphere in eating facilities, the architects designed two cafeterias stacked two high

EAST GRAND RAPIDS JUNIOR HIGH SCHOOL, *East Grand Rapids, Michigan. Perkins & Will, Architects. J. & G. Daverman Co., Associate Architects. Barnes Construction Co., Contractor.*

This very pleasant school consists of four building units: two-story academic unit, connected by a lobby and administration wing to a gymnasium, and a boiler and home arts unit. The exterior is fieldstone, accented by red doors and a yellow panelled and white-frame curtain wall.

The cafeteria *(see photo page 207)* serves a simple, one-meal lunch and has the serving counter directly in the corridor. The cafeteria doubles as a multi-purpose room, and has an adjoining outdoor dining terrace.

Gerald Gard photos



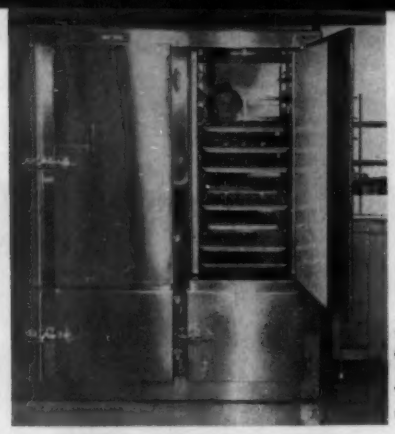


Fig. 10. Hot or cold pass-through

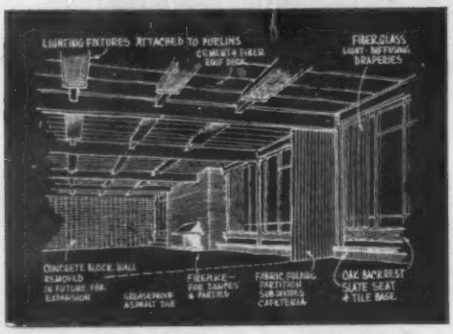

LIGHTING FIXTURES ATTACHED TO PURLINS
CEMENT FIBER ROOF DECK
FIBERGLASS LIGHT DIFFUSING DRAPERIES
CONCRETE BLOCK WALL REMOVED IN FUTURE FOR EXPANSION
FIREPROOF ASPHALT TILE
FIREPROOF FOR TRAYSLIDES & PASTRY
FABRIC FOLDING PARTITION SUBDIVIDES CAFETERIA
OAK BACKREST SLATE SEAT & TILE BASE

Fig. 11. Typical multi-purpose cafeteria

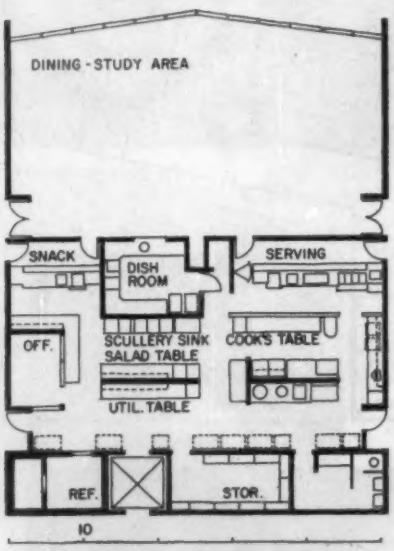


Fig. 12. Loy Morrix High School kitchens

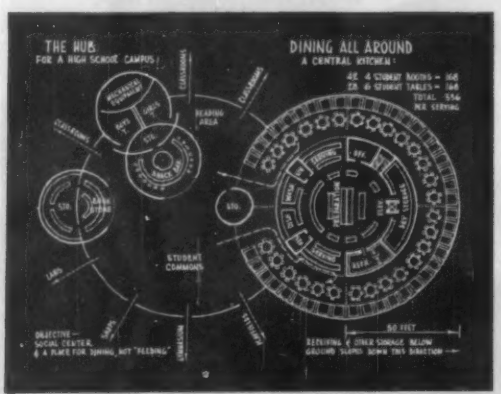


Fig. 13. A proposed cafeteria concept

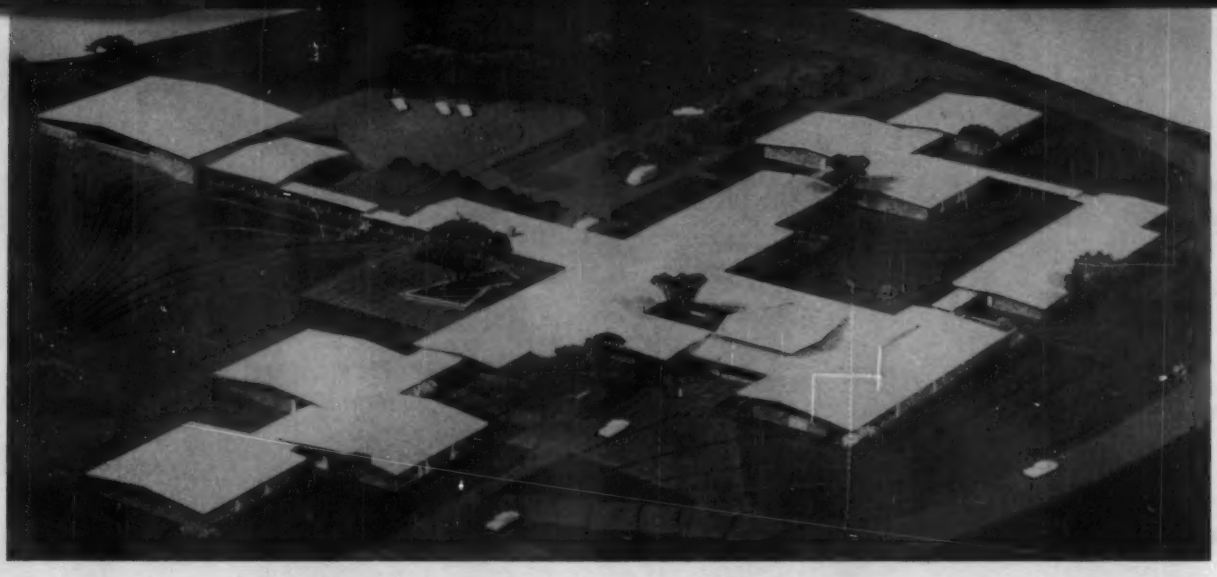
on top of each of two kitchens. These four identical cafeterias are multi-purpose rooms which can be used for study halls and assembly. Food is prepared in the two kitchens, located on a lower floor. Because of the site elevations, natural light as well as fluorescent light is available. Meals are put on serving carts, wheeled to elevators, and taken to the two upper floors. Between 250 and 275 students on each floor file in through two separated doorways to two serving areas where provision for both milk and ice-cream storage has been made. The lunchrooms have glazed areas on two sides, permitting a view of the countryside on one, and of an interior court on the other. Windows are 2 ft 9 in above floors. Tables are designed to seat six and have a place for books. Kitchen employes at White Plains High School have their own cafeteria, adjacent to one of the kitchens. This room gives employes a place to relax, keeping the kitchen free for servicing purposes. Lockers, dressing rooms, and lavatories are provided on this same level for the 35-45 employes.

Remote service will be used at Loy Norrix High School, Kalamazoo, Michigan. A central kitchen has been designed to serve four "satellite study-dining" areas each of which accommodates 300 students and faculty members. By placing the small study-dining areas in each of three small-school acaedmic units as well as the central unit, student travel is kept to a minimum. (Fig. 12.)

Each satellite study-dining area is designed for maximum flexibility. It is used as a homeroom area, a classroom or study hall, or may be divided easily into two or three smaller classrooms. Equipment and wiring make this area suitable for educational TV also. Two doors, one leading to a science classroom, the other to a commercial arts classroom, make the study-dining areas a useful place for these permanent classrooms to expand for specific projects or lectures. Glazed partitions allow the teacher full control of all rooms. These satellite cafeterias encourage relaxed dining. Sloping ceiling, circular tables seating four to six, draperies and patterned vinyl floor tile all contribute towards the atmosphere. All four cafeterias are served from a central kitchen by means of portable hot and cold carts which will transport food during classtime when corridor traffic is at a minimum. Cart transportation is facilitated by ramps.

This central kitchen scheme will be carried one step further at Newark, Ohio where the high school will contain a central kitchen to service numerous elementary and junior high schools throughout Newark, as well as the high school proper. Each of three "little schools" on the high school campus will have its own dining room served by portable food carts rolled in from the central kitchen, and trucks will distribute hot and cold food carts to the elementary and junior high schools. The philosophy guiding such ventures as White Plains Senior High School, Loy Norrix and Newark High Schools is the same as that underlying any well-planned food handling operation:

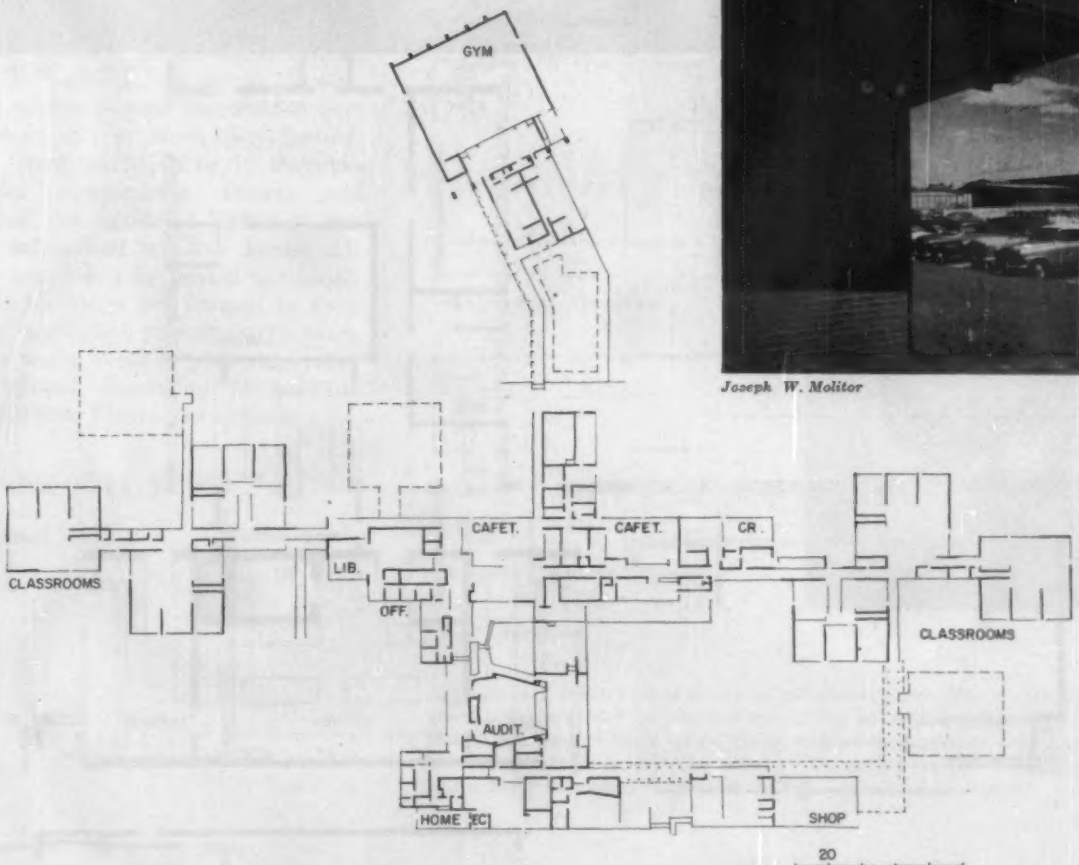
- the belief that a cafeteria should be more than a place to "grab a bite."
- the realization that a successfully planned, well equipped and tastefully furnished kitchen and cafeteria weigh heavily in evaluating the merit of a school community.

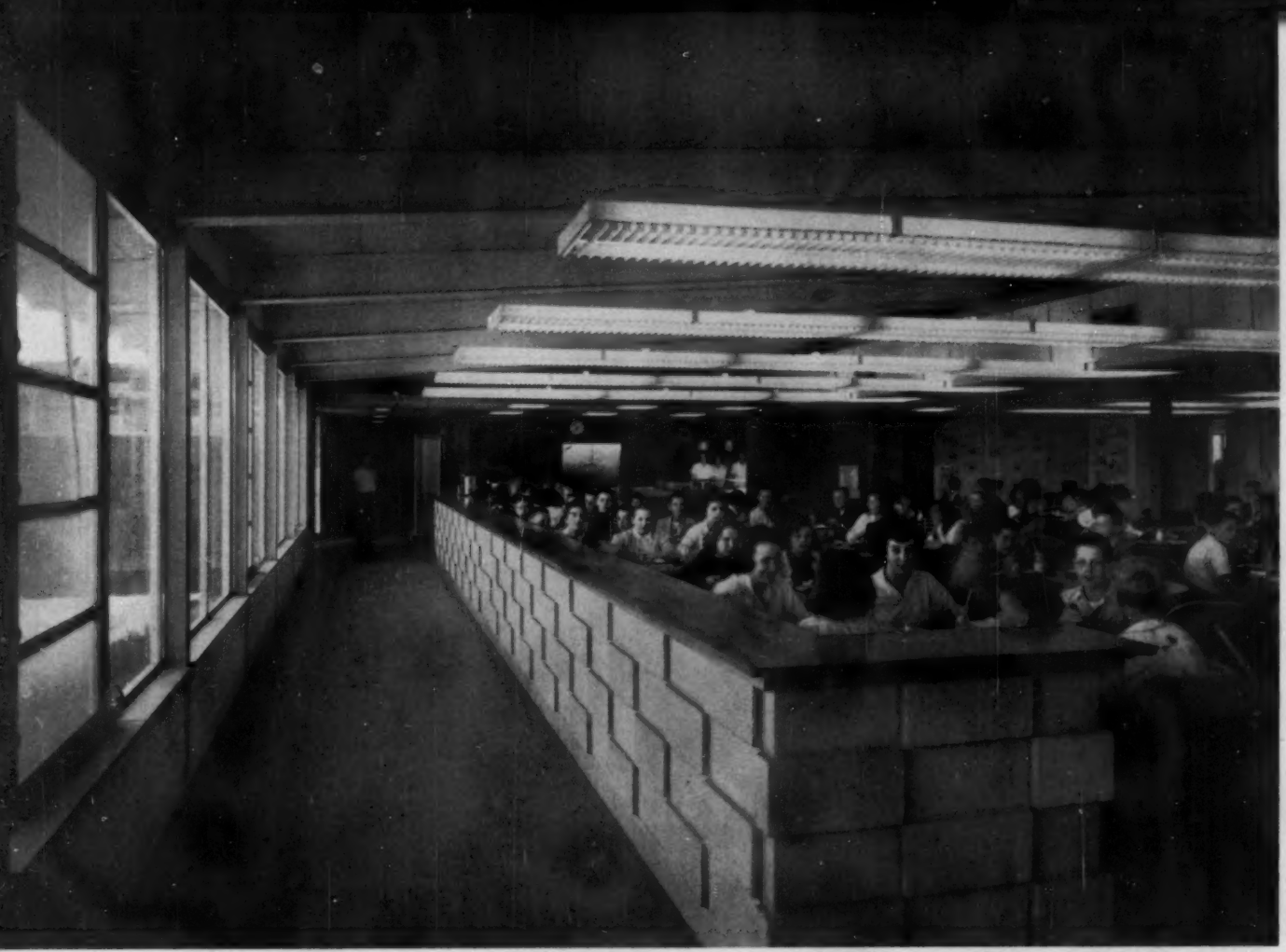


Regional District No. 8
Junior-Senior High School, Hebron, Conn.

Louis J. Drakos, Architect. Marchant & Minges, Engineers. Kargman, Mitchel and Sargent, Educational Consultants. Charles A. Currier & Associates, Site Planners. J. S. Nasin Co., Contractors.

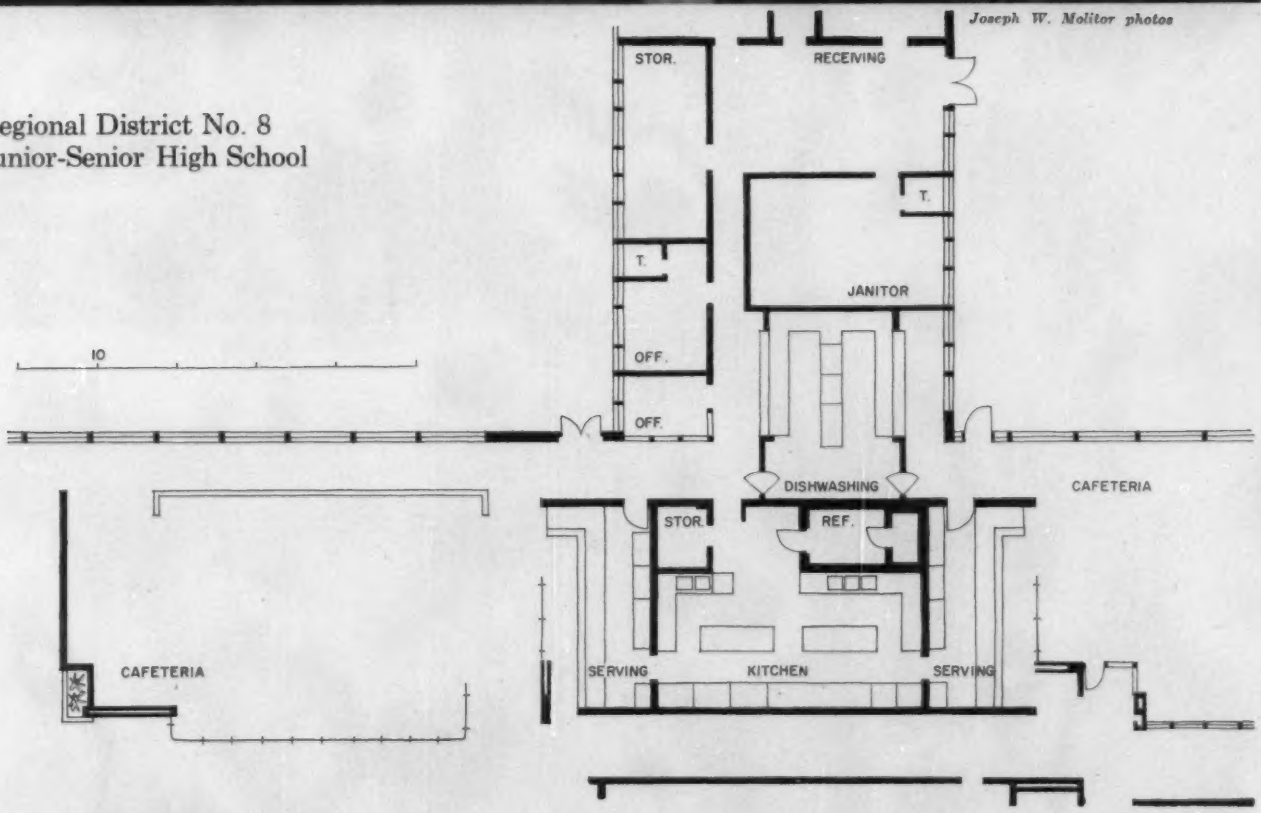
Joseph W. Molitor





Joseph W. Molitor photos

Regional District No. 8
Junior-Senior High School

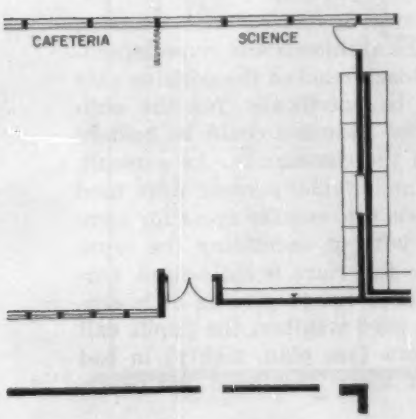


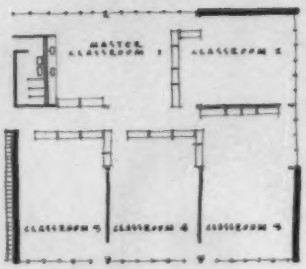
This highly flexible cluster school groups self-contained classroom units into Junior and Senior High School areas, each around a small commons and toilet and storage rooms. They flank a central unit housing specialized facilities, administration, and cafeterias. The school houses 800 pupils for the six-year program.

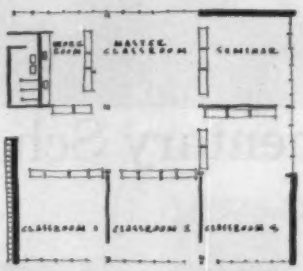
The cafeteria is divided into two sections, one for Junior High and one for Senior High pupils. Each has its own serving line. Central kitchens and service rooms supply both. (See photo and plan at left.) This arrangement reduces dining areas to a more reasonable size and provides quicker service. The Senior High cafeteria is separated from an adjoining science room by a folding partition, permitting either facility to use the space as needed. The Junior High side opens onto a student lounge and court, which can together form an evening recreation center.

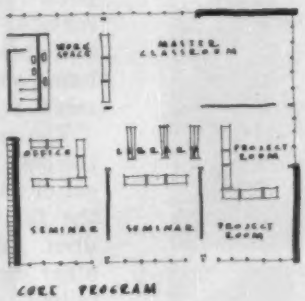
The classroom units are planned for a relatively conventional teaching system, but can be adapted for a core curriculum program, master teacher training or television education. Each unit houses 120 to 150 students in five normal classrooms, and includes a science-utility-heating core. Most partitioning is movable interior components. Rooms are planned for artificial lighting, and have minimized window areas. All units are linked by heated corridors.

The buildings are framed in steel on an eight-foot module, with brick cavity walls, roofs of poured gypsum on exposed insulating formboards and purlins. Floors are asphalt.

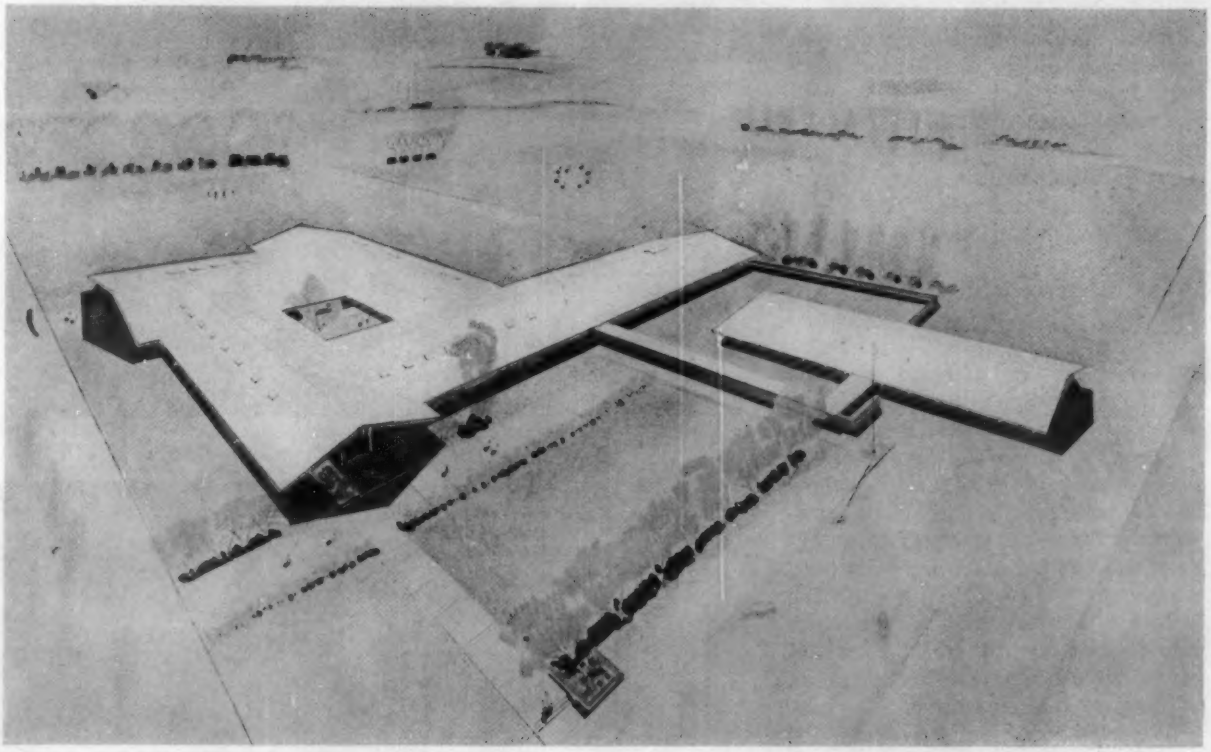






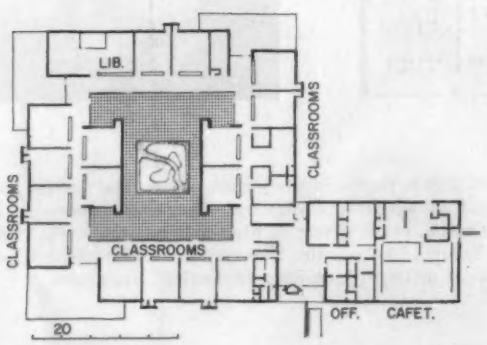


A typical classroom unit is shown in the photos above. The sketch plans show how units may be adapted to varying educational programs. Interiors are pumice block, brick, glass; in high-maintenance areas, walls are sprayed with enamel-like plastic. The center section of each unit has a hung acoustical ceiling concealing mechanical equipment



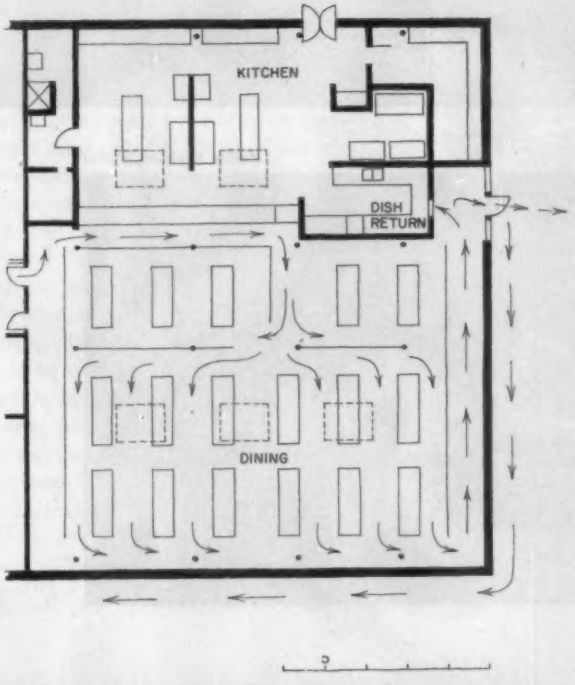
Underwood Elementary School, Andrews, Texas

Caudill, Rowlett and Scott, Architects.
J. W. Hall, Jr., Mechanical Engineer.
A. M. Martin, Structural Engineer.
Herman Krevit, General Contractor.

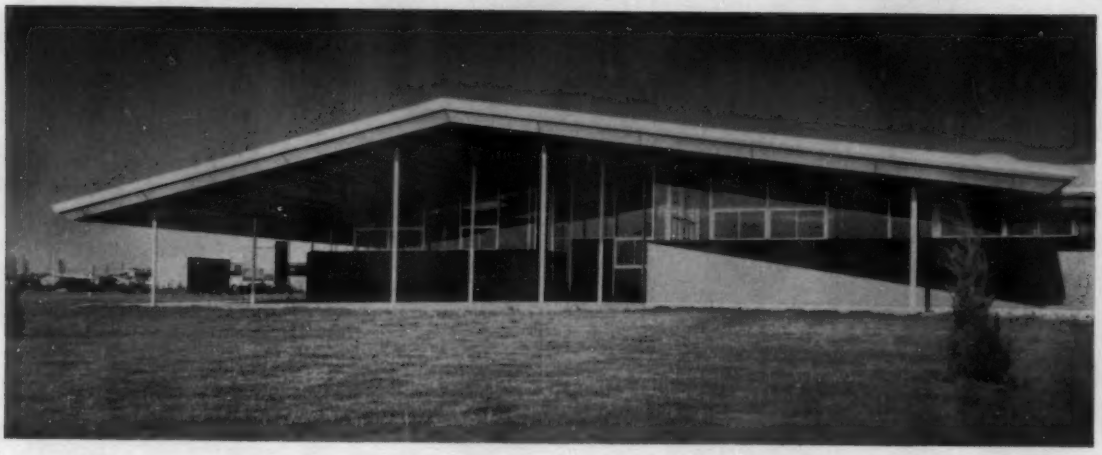


A "doughnut" scheme for this school in the Texas plains provides a lushly-planted court as a focal point for its open-plan rooms. Classrooms have no corridor walls, no doors; glass walls face the court and green areas. Planning throughout the school is based on the assumption that children hate confinement, yet all must be "child-scale".

The same ideas prevail in the cafeteria: during the planning stages, the architects and Superintendent of Schools T. A. Roach reached the decision that the facilities should be specifically for the children. Adult community banquets could be held in other dining areas in the community. As a result, ceilings were furred, and divider screens were used to break up the cafeteria into smaller areas for more intimate dining, but without sacrificing the sense of openness. Even the furniture is child-sized. Circulation has been worked out to give as little confusion as possible. In good weather, the pupils exit directly to the outdoors (see plan, right); in bad weather, they return along the room periphery.

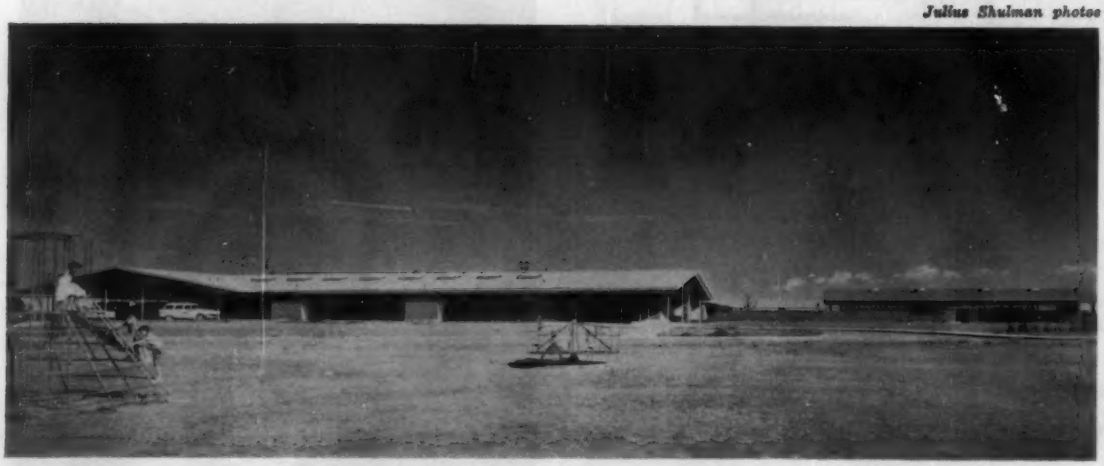


Dewey G. Mears photos



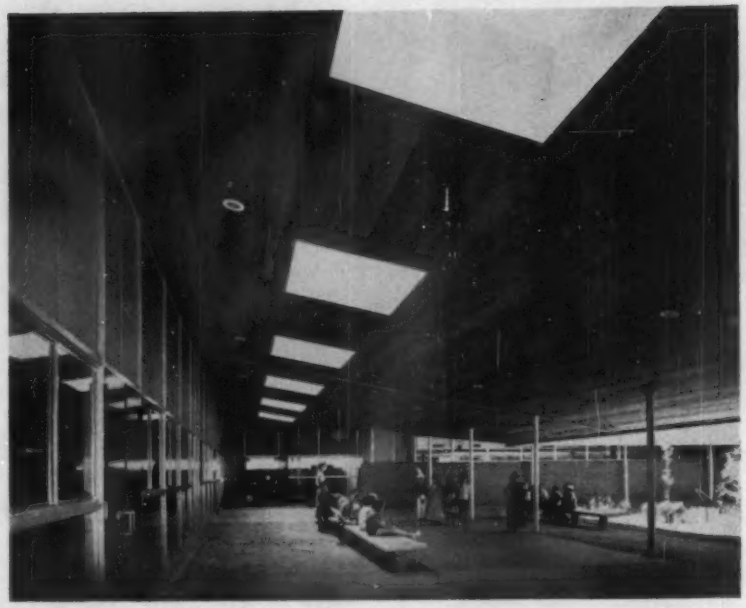
Underwood Elementary School

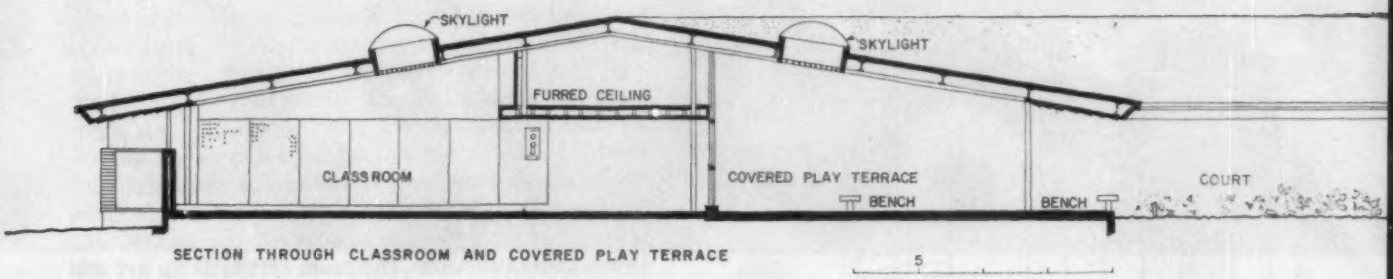
Julius Shulman photos



The architects have compared the broad roofs of the 480 pupil Underwood School to a cowboy's hat —the wide overhangs provide vital shade in a region that is largely hot, dry and treeless. The structure is rigid steel frame on steel pipe columns; the roof is built-up asphalt and gravel on gypsum deck. Several big setbacks in the building provide shaded play areas. Plastic skylights admit light to the interiors at these points. Fenestration has been kept high above the exterior brick cavity walls, in contrast to glass walls around the court.

Furred-down acoustical ceilings in the corridor areas help block sound transmission between class areas and court. Space above these ceilings houses air handler



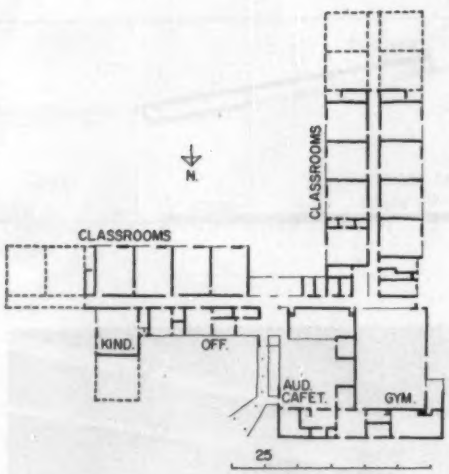


SECTION THROUGH CLASSROOM AND COVERED PLAY TERRACE

units and ducts. At present, only the cafeteria and administrative offices are air conditioned, but all ducts are sized for installation.

Flexibility is provided in the sixteen general and five special teaching spaces by movable furniture and cabinet units. This allows each teacher to arrange her own classroom for varied activities and groupings. Cabinets are located to form a low corridor wall or elsewhere to capture the corridor as part of the classroom space. Interior partitions are wood stud finished with plywood, chalkboard, tackboard or pegboard. Most concrete slab floors are surfaced with vinyl tile. Ceilings are beveled redwood siding, acoustical tile or plywood.

Southgate Elementary School, Colonie, N. Y.

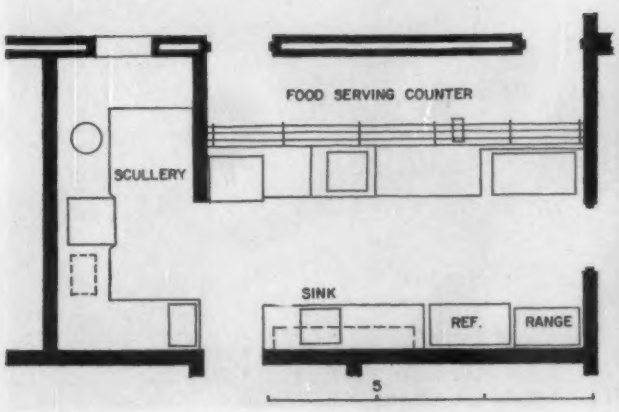


The hub of this 13-classroom school is a highly versatile "cafetorium." At mealtime folding tables and benches convert it for cafeteria use. Kitchen facilities are geared to principal supply by truck-delivered cart (below left). The serving line is set apart from the main room and can be entirely closed-off. An adequate stage (behind camera in top right photo) provides for use of the room as an auditorium or assembly hall; the shape of the suspended plaster ceiling is primarily designed for this function. It is striped with acoustical tile panels. Between these functions, the room serves as an art and handicraft center. (Photo, lower right.) Accordion doors conceal an art equipment room.

The building is steel frame, with exteriors of face brick and panels of porcelain enamel and corrugated asbestos. The roof is poured gypsum on acoustical formboard. Ceilings are acoustical tile, floors asphalt tile. Interior partitions are metal stud and plaster, prefinished hardboard panels. The "cafetorium" has a face brick wainscoting.

Joseph W. Molitor photos

Office of Henry L. Blatner, Architect. Teeling & Spindler, Heating Consultants. Olney & Anderson, Acoustical Consultants. Sano-Rubin Construction Co., General Contractors.



Southgate Elementary School

Entrance lobby is separated by low counter from library and reading area (right in photo). Administration offices are at left

Typical classroom has small-scale, open wardrobes, topped by glass vision strips above the children's eye level

Most classrooms have a slightly elevated "stage" area to encourage play-acting and to offer a defined display area.

The gymnasium is in the same higher-ceilinged wing as the "cafetorium." Here the structure is left exposed

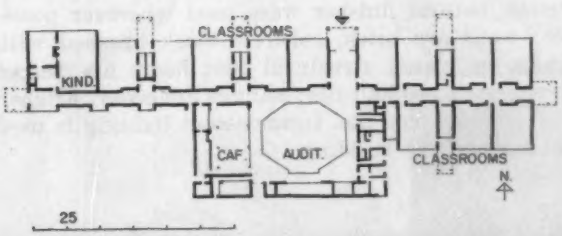
Joseph W. Molitor photos

Lillian C. Schmitt Elementary School, Columbus, Indiana

Harry Weese & Associates, Architects. Frank J. Kornacker, Structural Engineer. S. R. Lewis & Associates, Mechanical Engineer. Dunlap Construction, Contractor.

A playful, rather festive air is lent this kindergarten-through-sixth-grade school by its many-gabled façade and the dominating octagonal "great hall." The hall is physically and socially the focus of the school. All of the thirteen classrooms are grouped about it. The kindergarten and primary grades are to the west with a corridor, separate from the older children. These rooms have covered outside play areas. The upper grades are grouped to the east on a sky-lighted corridor which contains built-in coat storage. Ventilating units are concealed in the storage units, and supply air to both corridor and classrooms.

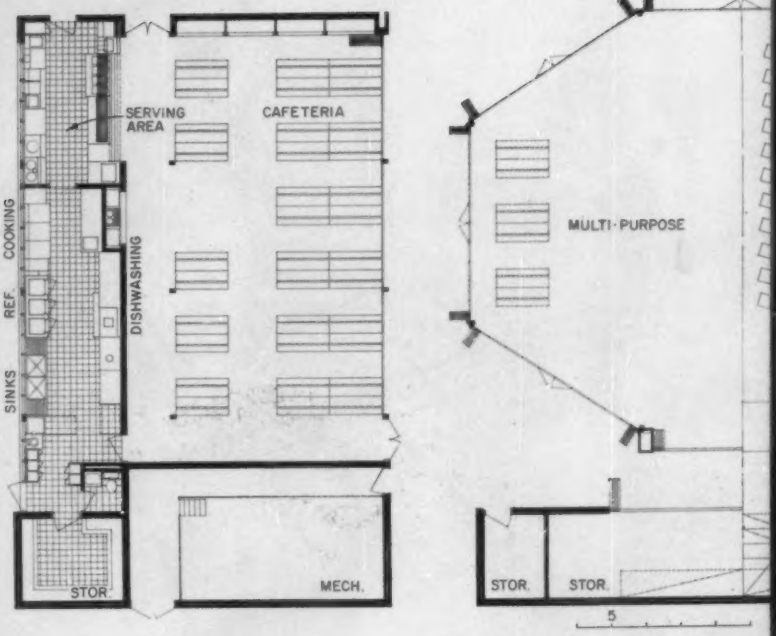
Classrooms are identical square units, with natural lighting achieved through glass exterior walls and a clerestory at the opposite wall above the nine-foot level. All windows over 6⅔ ft high are of a milk-white translucent glass to diffuse light evenly through the rooms. The building is heavy timber frame construction with laminated fir beams and trusses on eight-inch brick or concrete bearing walls.



Bill Engdahl, Hedrich-Blessing

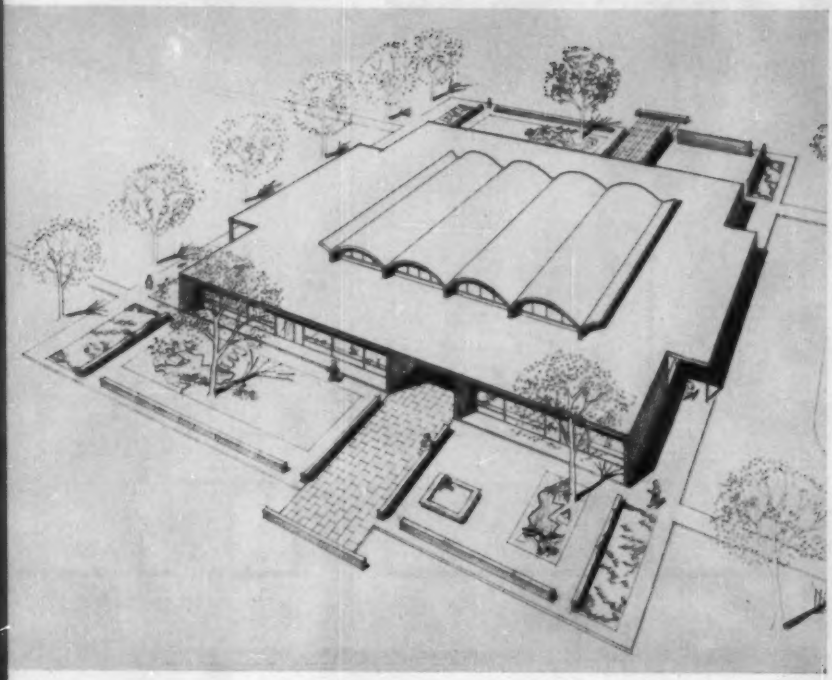
The "great hall" is a sort of multi-purpose area, with the principal function of serving as a meeting hall or auditorium. The cafeteria (rear center in photo above) directly adjoins it, permitting the spaces to be used together when needed for unusually large numbers at meals. The hall is placed in the center of a large square of circulation space, with its walls entirely formed of folding doors. For assembly or dramatic functions, a folding stage is extended from the back stage area through the opening in the south wall. The corridors leading from this space may be locked off with sliding partitions for after school use.

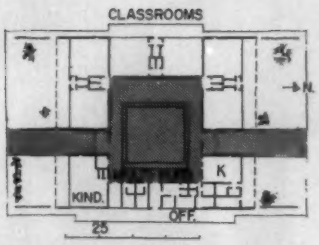
All exterior wood in the building is painted white. Inside, natural finishes were used wherever possible: walls are brick, concrete block brushed with white, or glazed structural tile; floors are waxed concrete, fir, asphalt tile; ceilings are cedar. Kitchen floors are quarry tile. Incandescent lighting is used throughout the building.



Lillian C. Schmitt Elementary School

Bill Engdahl, Hedrich-Blessing



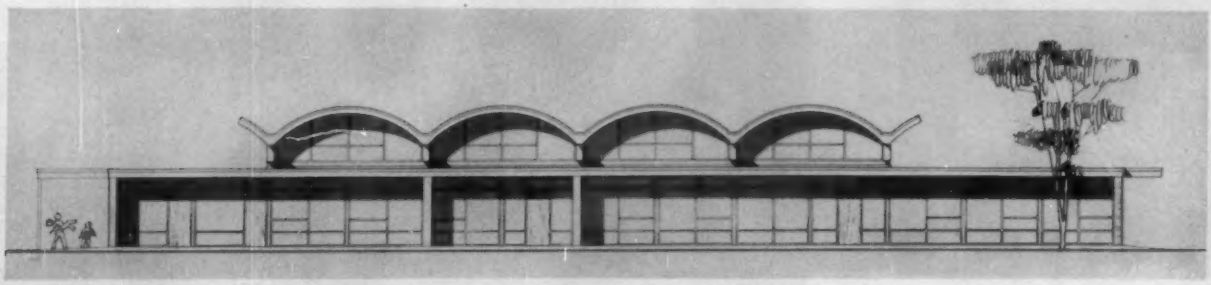


Warson Woods Elementary School, Warson Woods, Missouri

Hellmuth, Obata & Kassabaum, Architects. Caudill, Rowlett & Scott, Associate Architects. Smith, Hanlon, Zurheide & Levy, Mechanical and Structural Engineers. Frank T. Hilliker & Associates, Kitchen Consultants.

An amazingly comprehensive multi-purpose room forms the core of this kindergarten-through-sixth grade school. Its functions include: theater, indoor play area, gymnasium, group project area, dining space, auditorium. It also serves as virtually the only circulation space in the plan: what might otherwise be corridors are converted into peripheral areas of the room. The center is dropped four steps below these areas. The steps help define activity areas, provide extra seating.

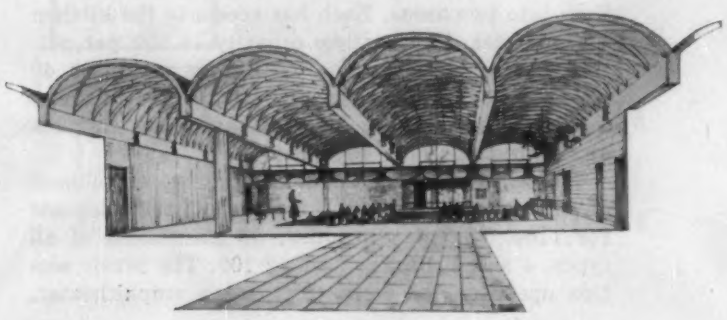
The importance of the room is clearly expressed both inside and out. The vaulted "space-frame" roof

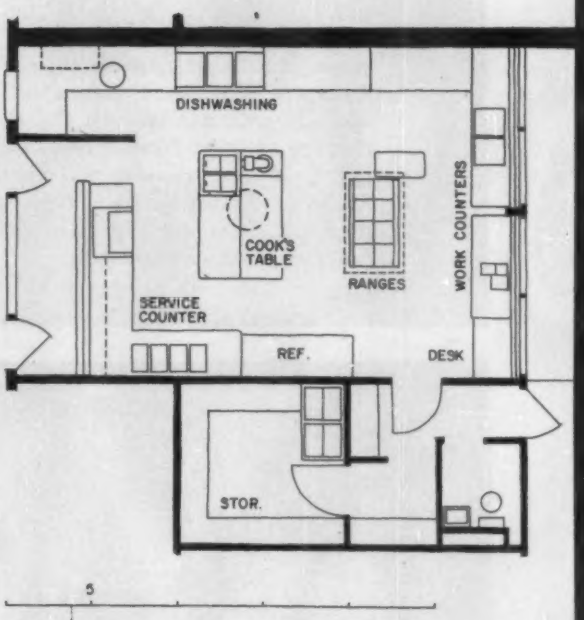


Piaget Studio

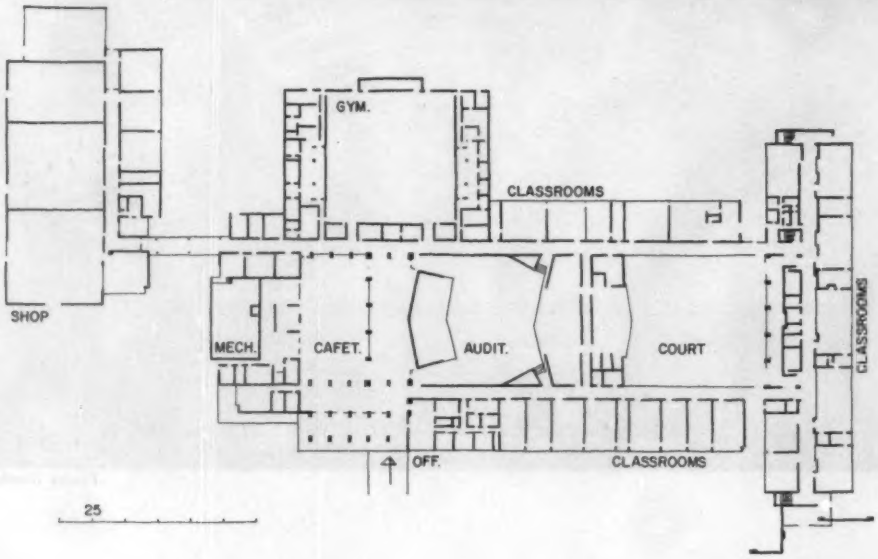
rises above the surrounding building, and provides a clerestory with vertical louvers. Continuous plug-in strips will be placed along the bottoms of the beams to give maximum flexibility for lighting.

Dining arrangements can be set up anywhere desired in the room. The kitchen is compact, and has a serving counter opening directly on the multi-purpose area. The structure is part masonry bearing walls, part steel frame. The lower roofs are precast concrete planks, partitions are masonry block. Floors are asphalt tile, ceilings are acoustical tile. Warm air runs through cellular floor to vents.





Joseph W. Molitor photos

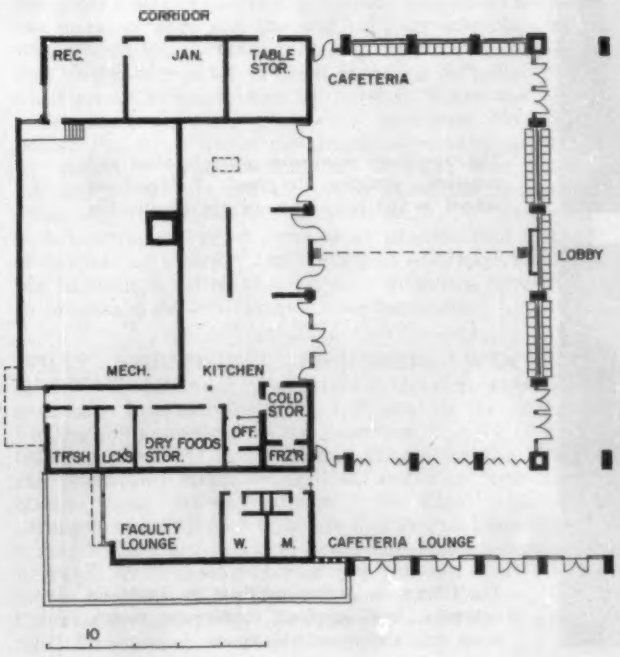


Greenfield High School, Greenfield, Mass.

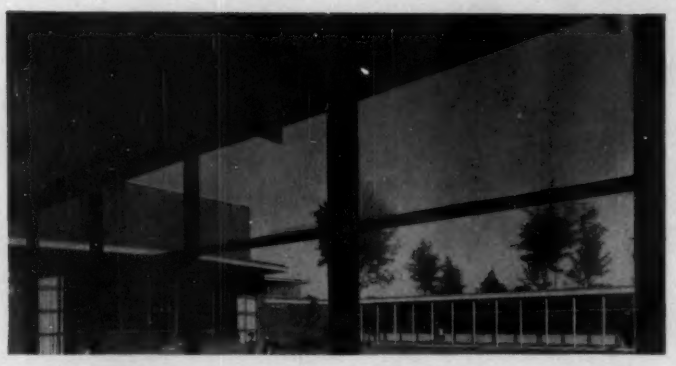
James A. Britten, Architect. Ralph A. Lawrence, Educational Consultant. Lift Slab, Structural Engineers. Buerkel & Co., Inc., Piping, Heating and Ventilating Engineers. Wendell K. Simpson, Electrical Engineer. Bolt, Beranek & Newman, Acoustical Engineers. Jo Ray, Site Design and Landscaping.

This very complete high school has all its many facilities organized in a very forthright and pleasant manner. This is especially true of the relationship of the entrance lobby, cafeteria, auditorium and gymnasium. They form a block suitable for public as well as school use. The cafeteria itself may not only be used for dining, but for public meetings, student dances and parties. The room is approximately 50 by 116 ft, and divided by folding partitions into two areas. Each has access to the kitchen serving area. The seating capacity is 550 per setting. There is also a faculty dining room for 40 people. One area is developed where all deliveries, including fuel, school, cafeteria and shop supplies and equipment may be made.

The school is designed for a present enrollment of 850 students, with all common facilities adequate for 1100. The plan includes: 38 classrooms of all types, 4 shops, library seating 100. The Music section opens on the court to form an amphitheater.


CORRIDOR
REC.
JAN.
TABLE STOR.
CAFETERIA
LOBBY
MECH.
KITCHEN
COLD STOR.
OFF.
TR'SH
LCK'S
DRY FOODS STOR.
FRZ'R
FACULTY LOUNGE
W.
M.
CAFETERIA LOUNGE
10

Greenfield High School



The central court doubles as play area and amphitheater. The glass wall of the music room (left rear in photo) folds back

The main lobby gives immediate access to offices, cafeteria, auditorium and gymnasium, facilitating use by public

The two-story classroom wing is steel and concrete, entirely fireproof. Exterior of school is red brick. Floors are plastic tile

The library is on second floor by student's entrance, has adjacent conference rooms, work area and visual aids room

Joseph W. Molitor photos

Architectural Engineering

NEW(S) UNDER THE SUN. "Don't rely on the climatology of today for a building you design with the intention it shall last 300 years or so," said Dr. Walter Orr Roberts at the Western Mountain region conference of A.I.A. in September. [Apparently Dr. Roberts has discounted forced obsolescence.] The reason for climate change: "Subtle changes in the sun's emanations of electrified particles may be the cause of changes in climate which could directly affect the suitability of the building's design." Concerned more with the status of things at the moment, John I. Yellott, solar consultant, reported that, while we know how to convert the sun's energy to electricity and into refrigeration, these methods are not economical; also are still primitive.

AN ELECTRIC "SUN". Engineers of the Illuminating Engineering Society report the lighting of a space to 10,000 foot-candles (equivalent to the intensity of sunlight received by the earth) for the first time in history at a recent I.E.S. meeting in Toronto. Experiment, performed on a stage, used 150 floodlights.

NOTHING NEW UNDER THE (ELECTRIC) SUN. Half-a-century seems to have made little difference in the typical attitude of architects toward the contemporary forms of electric light. This RECORD editors discovered when they turned back to a series of 10 articles, "What Do We Know About Lighting" published in 1913-1914 issues of ARCHITECTURAL RECORD. Some of the thorns: *Yellow vs. White Light.* Author, a lighting consultant, cited case of 50 draftsmen in one office exchanging the newly developed tungsten filament lamps (white light) for the more preferable (in their view) carbon filament lamps (yellow). And the author left no doubt that he preferred yellow light for the home. [Anybody ever hear of fluorescent and incandescent?] *Glare.* "These mirror-images of glaring reflectors are factors of great distraction in large offices devoted to clerical work." *Uniformity.* "The visual function is depressed by too great a lack of contrast in surface brightness between the working page and the wall . . . an extremely dark wall affords too abrupt a contrast. *Jargon.* ". . . prospective victim is regaled by high sounding technical terms until goaded to desperation by 'lumens,' 'fluxes' and other such utterances . . ." *Academic Approach.* "We have passed the stage where the greatly overrated questions of "intensity" and "uniformity" of light need occupy our minds. We are not concerned about the engineer's efficiency of one watt per square foot." . . . "From the architectural viewpoint there is no preconceived method of lighting an interior, and the dogma of always expressing lighting in terms of energy, or intensity, tends only to produce ugly and commonplace monotony."

WHAT STRUCTURAL ENGINEERS WANT TO KNOW. Those topics of greatest interest to structural engineers, internationally, are indicated by the program for the joint meeting of the American Society of Civil Engineers and the International Association for Bridge and Structural Engineering, last month in New York. Major items were: Plasticity in Steel; Ultimate Strength in Reinforced Concrete and Folded Plate Structures; Model and Analytical Research—Dams and Shells; Research in Dynamics [for earthquake and blast]; Stability in Metal Structures; Prestressed Concrete and Concrete Bridges; Steel Bridges and Building Frames; Shell Structures.

SHARPENING COST FIGURES. As competition for the building dollar gets keener, so does the eyesight of clients watching their purse strings. On the professional side, latest to speak out on costs was Charles Luckman, (Pereira & Luckman) keynoter of the Prestressed Concrete Institute meeting in September. His warning on estimates: "For decades, architects have leaned too heavily on the fact that they did not have a legal responsibility to produce a building within the original budget. Architects do have, and must accept, the full moral responsibility for working closely with the client to properly correlate what the client wants with what the client can afford within the budget. Better cost estimates are a necessity. If the architect is to effectively combat the 'package' deal competition, he must make his services as complete as those of his competitor in the package field."

On the producers' side is a new report, *"Ultimate Wall Costs,"* published by Structural Clay Products Institute, that will be much read, discussed and used. By "ultimate cost" of exterior walls, the authors, C. T. Grimm and James C. Gross, mean what it will cost an owner to buy and maintain a wall and to pay for heating and air conditioning. Some significant factors included are: the cost of money, depreciation, taxes, foundation costs, floor space taken by walls, salvage value, and speed of erection. While the reader may not agree with all the details, or necessarily all the discussions, the basic method has a thoroughness that makes it hard to beat for meaningful cost analysis of walls or, for that matter, with interpolations, for other building components.

FIRE RESEARCH AT LIFE-SIZE SCALE. Canadian fire researchers must now be acknowledged authorities on why people can't escape from fires in homes and small buildings. In a unique opportunity, scientists at the Division of Building Research, National Research Council were able to burn down six houses (both brick and frame), a school and a town hall, all instrumented with test equipment (recovered during fire). These buildings were in Aultsville, Ontario, an area now flooded by the St. Lawrence Seaway, thus the project's tag—"The St. Lawrence Burns." Fires were started by putting a torch to wood cribbing, the equivalent of a typical amount of furniture. Checks were made on smoke intensity, carbon monoxide, temperatures, and noise (awakening influence). Sobering observation: In two minutes after start of a fire, an open, second-floor bedroom was cut off by smoke; after nine minutes carbon monoxide would have been lethal.

THIS MONTH'S AE SECTION

"LIGHTING: A Key to Spatial Character," pp. 232-242. Light is examined in terms of its relationship to forms, materials and spaces. Design techniques are examined in relation to the effects they produce.

TECHNICAL ROUNDUP starting on page 243
Short technical news items of interest

PRODUCT REPORTS starting on page 244

OFFICE LITERATURE starting on page 292

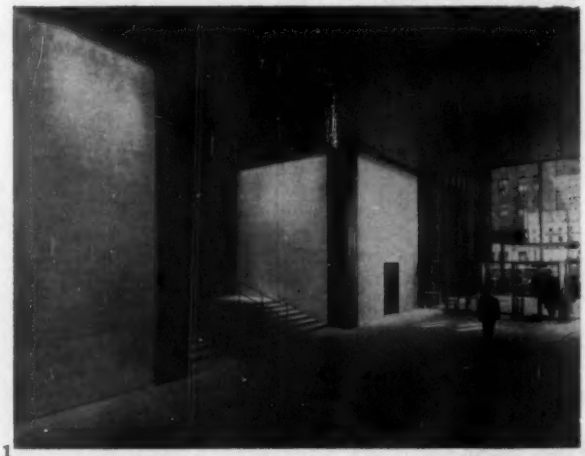
TIME-SAVER STANDARDS. pp. 247, 249, 251, 253. Public Swimming Pools (concluded).

LIGHTING: *A key to spatial character*

by John Flynn *Advanced Application Development Group General Electric Lamp Division*

and Wilbur Riddle, A.I.A. *Resident Architect General Electric Lighting Institute*

George Moffett-Lens Group



1

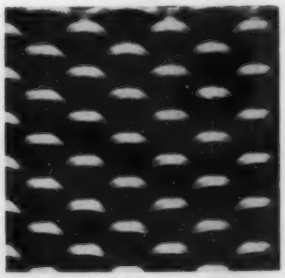
In both of these lobbies, light marks the location of elevators and corridors and permits the occupant to move about freely. In one, it also creates an atmosphere of dignity and repose—with a little drama thrown in for good measure. In the other, though certainly more than adequate for circulation, it causes the polished walls to dissolve in specular reflection.

Not quite half a century ago, ARCHITECTURAL RECORD published a series of articles titled, somewhat stiffly: "What Do We Know About Lighting? A Study Theoretical, Scientific & Practical," in which the author lamented the architect's inability to assimilate such technological advances as the tungsten lamp into the art of building, and deplored the architect's dependence on those concerned with the mechanics and theoretical aspects of lighting design. Were the articles not nestled among such period pieces as " 'The Towers of Manhattan' and Notes on the Woolworth Building" and "Notes on Gargoyles, Grotesques and Chimeras," the casual reader might surmise that their author was commenting on the contemporary scene—a jolting conclusion when we compare the Tower Seagram with the Tower Woolworth, Gabo with gargoyles. We obviously know a great deal more about lighting in 1958 than we did in 1913, and our sources and techniques have been much improved, but it would seem that they are being used no more imaginatively.

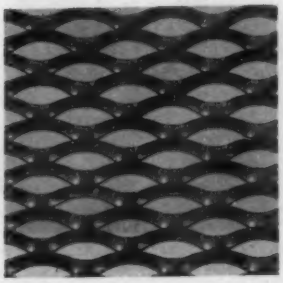
Now, as then, light is commonly treated as a necessary appendage that must be added to perform a specific function, rather than as a building material whose unique characteristics demand that it be included in the design from the beginning. One wonders how it is that a profession which embraces so eagerly the esthetic possibilities offered by new developments in structure and materials can overlook the ability of light to create a made-to-order visual atmosphere.

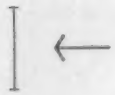
To begin with, of course, there is a basic difficulty in visualizing light. Even if lighting is considered in the initial stages of design, the architect may lack the verbal and graphic vocabulary with which to communicate the pattern of light and shade he sees in his mind's eye to the consultant who will finally translate it into equipment. Unless the designer is familiar with the qualities, functions and characteristics of light, and the techniques involved in its use, the final installation may fail to achieve the desired effect.

On the following pages, these fundamentals are reviewed, with sources and techniques discussed in the context of their role in molding the visual character of the spaces they illuminate.

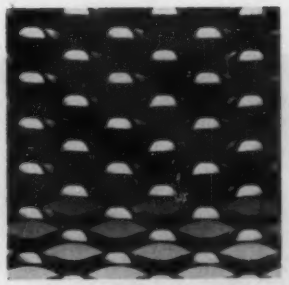


Directional light from above, front

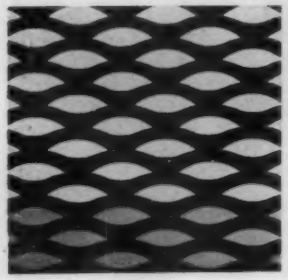


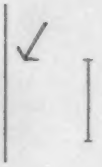


Directional light, frontal

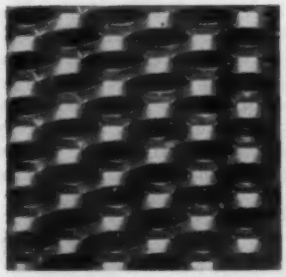


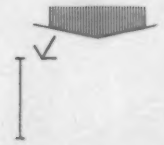
Directional light from above, rear



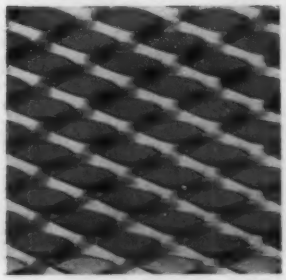


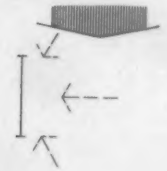
Silhouette





Diffuse light plus directional light





Diffuse light

In the illustrations opposite, the form and texture and color of the lighted object remains in every case the same: only the lighting changes. Yet that single variable profoundly alters the apparent character, stimulating a wide range of reactions in the observer.

Dealing as they do with isolated objects and settings, photographers and stage designers have long been aware of—and taken advantage of—this dynamic effect of light on static forms and surfaces. Architects are perhaps equally aware of the dynamic quality of light; but, dealing as they must with integrated functional spaces, they often lose sight of the fact that the "illusions" created by changing patterns of highlight and shadow may be as real as the space itself.

The technique of varying the intensity and direction of light in order to emphasize (or de-emphasize) form and texture is almost axiomatic. However, unless the characteristics of both the light sources and the elements to be lighted are carefully studied, even such obvious manipulations may fall short of the mark. Worse, they may produce an effect quite different from that intended.

Plaster and similar finishing materials, for example, are intended to appear perfectly flat and uniform, and a source which "emphasizes their texture and form" by washing them with a grazing light will also accent any small defects in workmanship or finish. For such surfaces, a frontal component or very diffuse general lighting may be more appropriate.

Other surface characteristics similarly affect the development of an effective lighting scheme. Matte surfaces, which reflect their light in all directions, may be lighted and viewed as a relatively uniform plane; on the other hand, such materials as glossy paint, marble and glass begin to approach the conditions found in lighting mirrors or specular metals. Depending on the relative positions of the light source and the observer, they may not visually indicate their own characteristics at all, but may appear dark or even act as "mirrors," reflecting a direct image of other lighted objects and surfaces.

Thus the most expensive materials can fail to make their potential impact if "savings" are achieved by skimping on the lighting; the most carefully planned space can quickly lose its character if light is thoughtlessly super-imposed.

LIGHTING: *Focal attention and dramatic emphasis*

Hand in hand with a careful study of the elements to be lighted must go an equally careful analysis of the space which they comprise and the spatial effect which the lighting is to reinforce—or create.

At one extreme is the flat uniformity of diffuse lighting. Texture and form virtually disappear as highlights and shadows are reduced or eliminated entirely; in an enclosed space, no element seems more important than any other. It is in this direction that the distraction-free environment necessary for sustained visual tasks is found.

At the other end of the scale are the sharply contrasting highlights and shadows produced by directional light. When brightness patterns are carefully controlled, such light can be highly dramatic, but the drama is achieved at the expense of the observer's ability to see and appraise objects within the space.

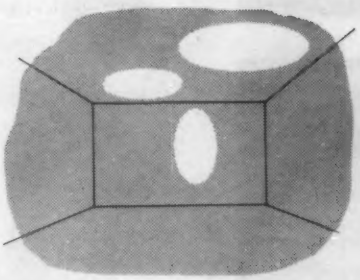
For most spaces, of course, appropriate lighting lies between these two extremes, with diffuse and direct light proportioned to strike a proper balance between ease of seeing and emotional excitement.

In some cases, it may be desirable to manipulate light to provide a suitable atmosphere for a variety of activities. Illustrations 4, 5 and 6 show how a constant minimum level of illumination can be maintained (note the floor brightness), while changing brightness patterns on the vertical surfaces and ceiling alter the mood and focal emphasis within a room.

The first (4) shows a diffuse space in which the focal interest is also diffused and the occupant is encouraged to move about at will. Well-suited to the activity of "finding a seat or a friend" or for the congregation of a large group, such an atmosphere could also be used for offices where flexibility and a minimum of distractions are desirable.

Reducing the overall brightness and introducing more contrast (5) reduces the diffusion and increases the feeling of directed activity until (6) the occupant's attention is completely controlled: he sees only what he is supposed to see. However, the horizontal illumination from the downlights still permits circulation and even note-taking or program-reading.

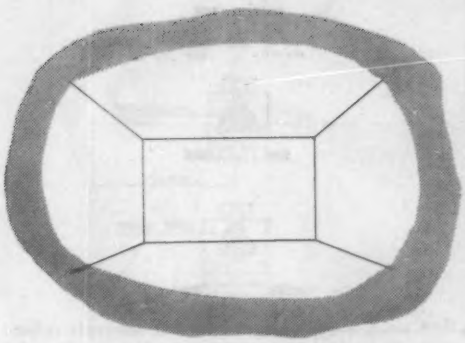
This use of high brightness contrast for getting and holding attention is well-established in the theater, but as a display technique and as a means of guiding circulation, the use of controlled brightness patterns is often overlooked.



The high contrast, dramatic space . . .

2

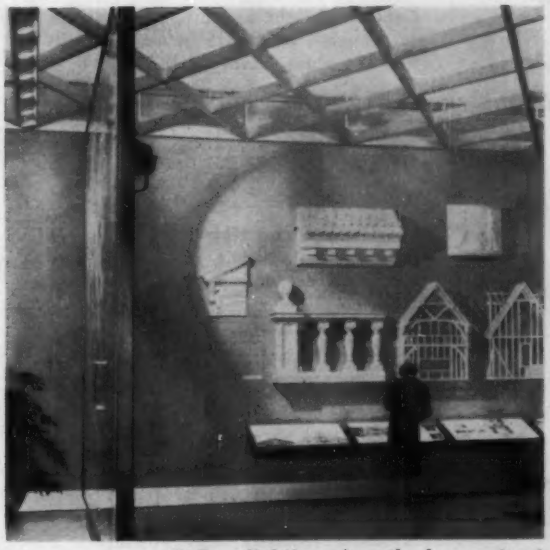
Spaces in which brightly lighted objects and surfaces are displayed against a dimly-lit background may in themselves be highly dramatic: the taut interplay of light and shadow produces an atmosphere charged with emotional excitement. But the same sharp contrast that contributes to the dramatic effect may greatly reduce the observer's ability to accurately appraise forms and surfaces



. . . The diffuse space

3

4



5

Diffuse lighting gives the low contrast illumination necessary for prolonged visual tasks, but it well nigh obliterates the highlights, shades and shadows by which we perceive form and texture. By introducing some variation in brightness, the monotony of such a space can be relieved, and the form and texture of included objects re-emphasized at no expense to the observer's ability to study them

6

LIGHTING: *Design techniques (downlighting and washes)*

Once the spatial concept has been defined, the designer's problem is to select from the many techniques available to him the one that will most effectively establish it. Many complex factors—not the least of which is cost—enter into the planning of any specific lighting installation, but the basic principles involved can be simply demonstrated by three applications of controlled lighting to a single activity (in this case, worship).

In the first example shown opposite (7), high contrast produces a highly dramatic mood. The lighting units are designed and positioned to keep stray light from striking the walls and ceiling, while focal points are highlighted and become completely dominant. The choice of dark and receding colors intensifies this effect so that the physical enclosure itself is de-emphasized in favor of the chosen focal points.

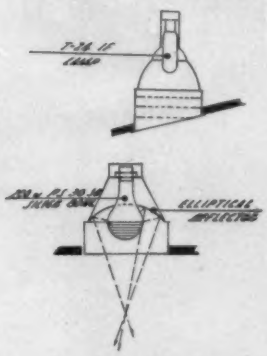
The second space (8) involves the reverse of this effect in that wall surfaces here are intentionally emphasized through a combination of perimeter wall-lighting and light colors. The result is much more diffusely lighted space—less dramatic perhaps, but better suited for study and appraisal.

A first reaction might be that the level of illumination is much higher here than in the first example. Actually, well-controlled recessed downlights provide virtually the same horizontal illumination at the pews in both spaces. The difference lies in the handling of the vertical surfaces which appear as major elements in the field of vision.

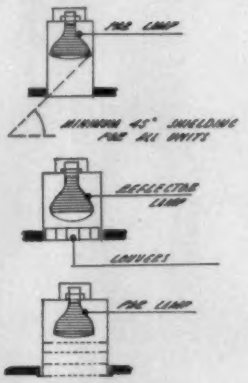
The third illustration in this series (9) again shows a diffusely lighted space. In this case, however, the indirect light source (the ceiling) also becomes a very dominant brightness factor. To relieve the extreme uniformity that might result from such a diffuse system used alone, variation is introduced through dark accents and irregular brightness patterns on the vertical surfaces around the perimeter.

Although these examples are all church applications, the principles and techniques of spatial manipulation which they illustrate apply to *any* space or activity. Consideration of surface reflectance and distribution of light will produce similar emotional effects for the lobby, the corridor, the store, the auditorium and the office, each solution evolving from the unique requirements of the space involved.

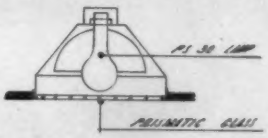
Downlighting units (general lighting)



Control of light and direction are due to very accurate (external) *reflector* control built into the fixture itself

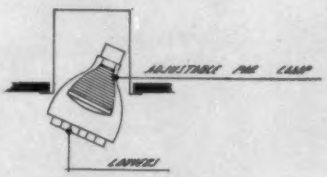


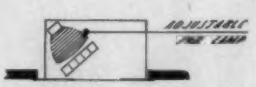
Control of light is due to accurate reflectors and/or lens control built into the *lamp* rather than the fixture or unit



Control of light and direction are due to accurate *lens pattern* control built into the glass facing of the fixture

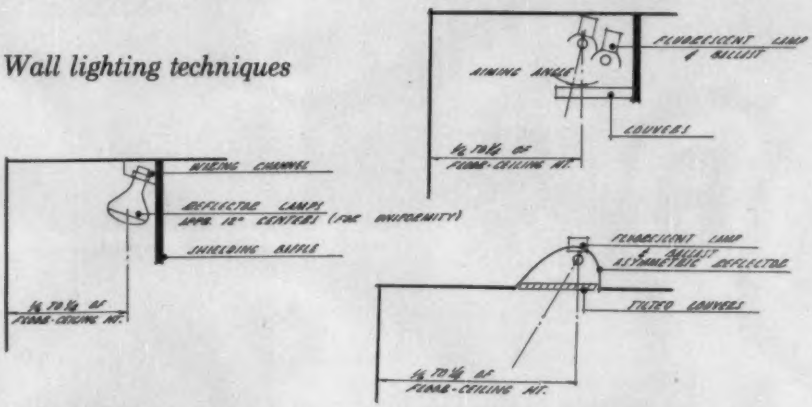
Directional units (accents and spots)



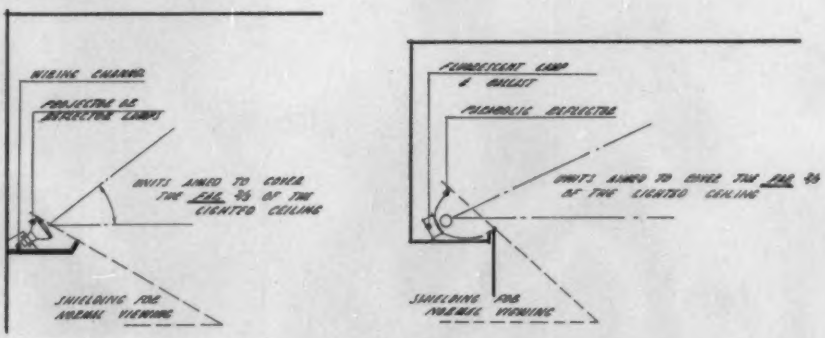


Adjustment or aiming due to *reflector* design or adjustment, *lens* design (as asymmetric, or adjustment of the *lamp* itself

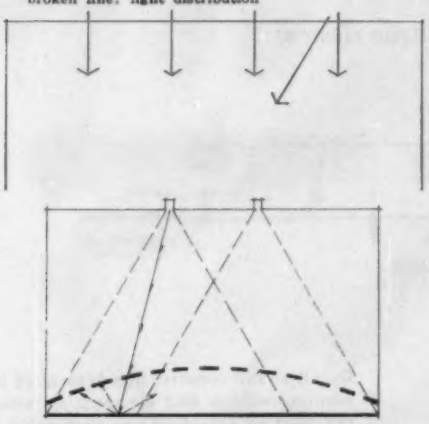
Wall lighting techniques



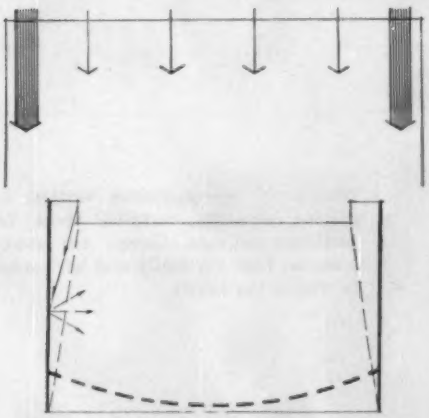
Ceiling lighting techniques



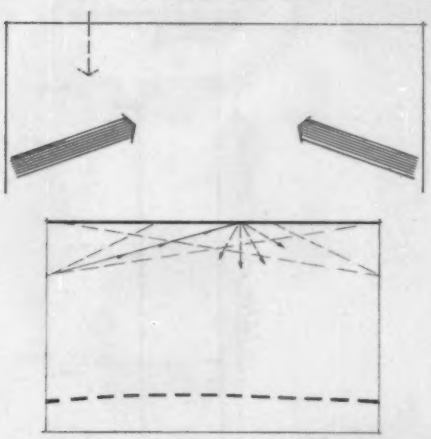
Note. heavy solid line directly lighted surfaces; broken line: light distribution



DOWNLIGHTING SYSTEM. Essentially a high contrast situation with relatively high brightness at floor. Walls and ceiling have low brightness level; objects are sharply defined highlights



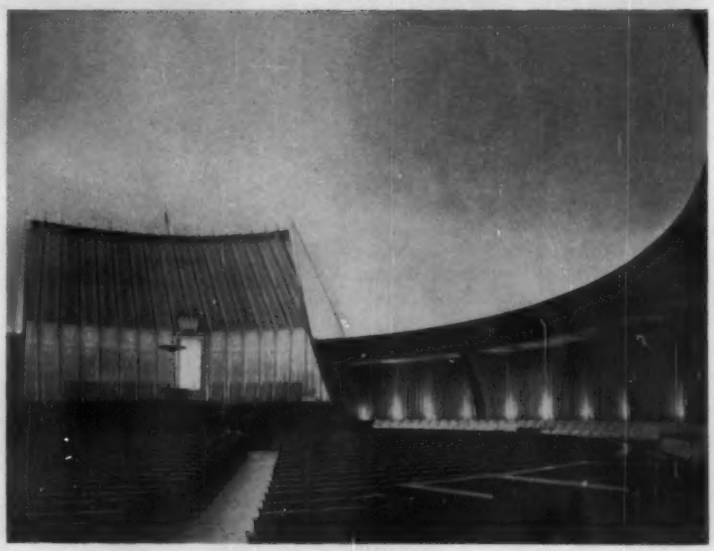
WALL WASH. Walls are high brightness elements; floor and ceiling, lighted indirectly, have low brightness. Lighting is diffuse, but downlights add contrast, modify light distribution curve shown



CEILING WASH. Directly lighted, high brightness ceiling reflects light to floors and walls, which have relatively low brightness. Lighting is diffuse in quality, almost linear in distribution

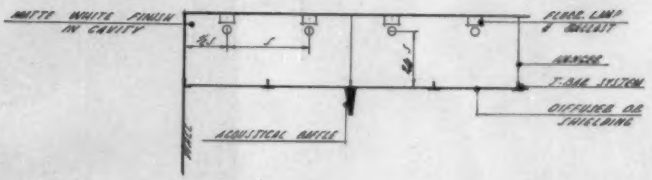
7

8



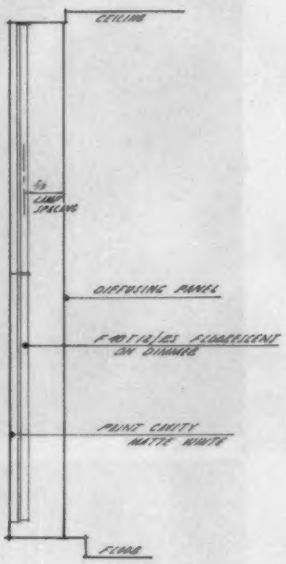
9

Luminous ceiling (and luminous elements)

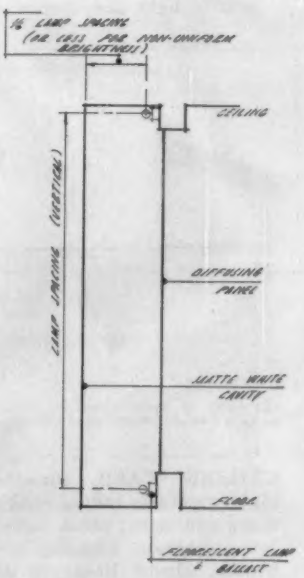


Detail shows construction typical of luminous ceilings and elements in which diffusers or shielding are suspended in a modular grid below ceiling-mounted fixtures

Luminous walls and panels



Details of representative vertical luminous elements resemble those for luminous ceilings. Lamps are shown mounted both vertically and horizontally within the cavity.



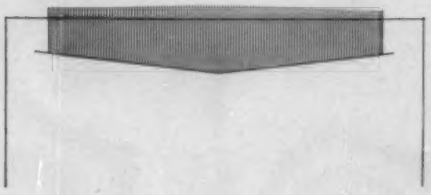
Of course the designer need not be limited to the indirect lighting techniques already noted. The design possibilities of large-area self-luminous elements for diffuse lighting, for example, have already captured the imagination of many designers and the public as well.

The illustrations opposite show self-luminous elements which have become major factors in the concept of space. The first (10) involves spatial emphasis or de-emphasis through variation in surface brightness, which is controlled primarily by the reflectance characteristics of those surfaces. The area specified for congregation and free public movement is characterized by diffuse lighting and light finishes which reinforce the generally unfocused atmosphere. As the observer leaves this public area to enter the more private parts of the building, however, he passes through a high-contrast change of pace at the stairs. The more dramatic atmosphere of this area, then, provides a *transition* between the free-movement public spaces and the more private, controlled areas beyond. The emotional characteristics of the lighting, together with a careful consideration of the effects of light on the surfaces involved, play an important part in establishing the emotional function of this space, so that people may "feel" what they are expected to do here.

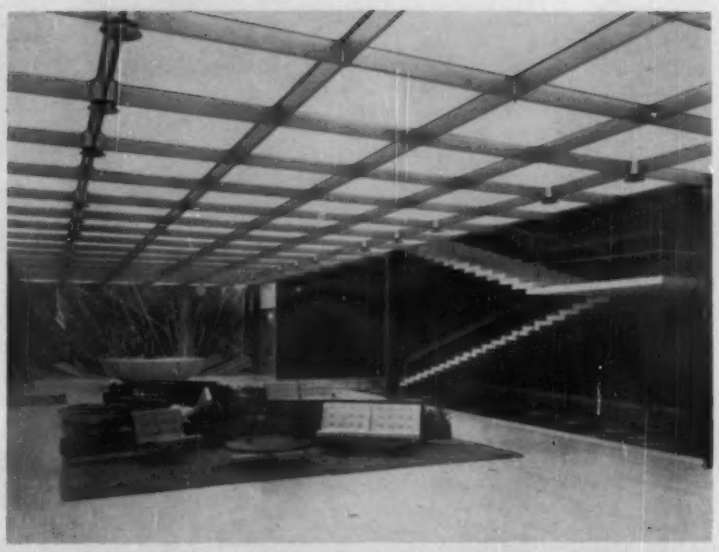
In larger spaces involving mass circulation, large-area luminous elements may take on some of the functions performed by spotlighting in smaller spaces. Illustration 11 presents an unusually large scale application of this principle, which is actually used quite often where the tellers' area of a bank, the information desk, the special display in a department store and similar areas of particular interest are set under a luminous element. This technique may step up the level of illumination for the more difficult seeing tasks and appraisal problems involved with these activities as compared to the general circulation areas, and like the spotlight, it attracts attention and interest. Used skillfully, it can also become an aid to circulation control.

The self-luminous wall (12) is another large-area element which can become a major, dominating factor in the design. This element may be uniform or non-uniform in bright-

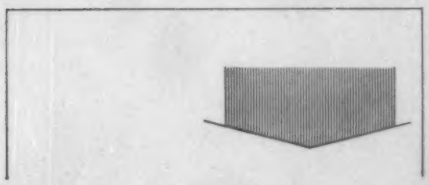
text continued on page 240



LUMINOUS CEILING produces diffuse light and generally unfocussed atmosphere for congregation and free public movement.

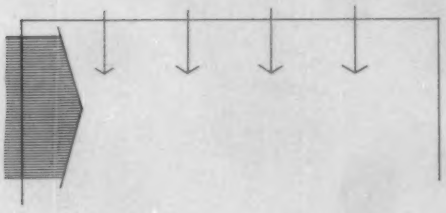


10



LUMINOUS ELEMENT steps up illumination level for specific activities, assumes attention-getting function of spotlight

11



LUMINOUS WALL may become dominant element of design, must be carefully controlled to avoid excessive brightness and glare.

12

ness, and introduces design and color possibilities totally unlike those of any other design technique. A major consideration, however, is the need for careful control to prevent the plane's becoming a source of glare and visual discomfort. This consideration is also important in the use of windows—which are, in a sense, self-luminous wall elements —to introduce natural light.

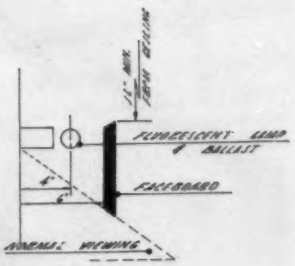
A window in a space serves two principal functions. Architecturally, it is a transparent screen: it is also essentially a vertical luminous panel for lighting the room. A successful solution for one function cannot automatically insure a good solution for the other, and in too many cases, window walls introduced and considered only as architectural elements produce acute problems of discomfort for the occupants. Excessive glare and variable light distribution are representative of the visual problems.

It should not be inferred from this that natural light is not a valuable tool, but rather that this source needs to be considered as *one* of the many lighting tools available to the modern architect. In this sense, it has several advantages as well as some disadvantages. As a light source it should be considered and analyzed just as any other lighting system; architecturally it should be analyzed as a design element with brightness characteristics similar to those of the luminous wall panel.

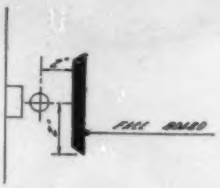
In many cases, such an element—properly controlled—is perfectly compatible with the concept of space and environment. But the luminous (window) wall is not automatically the ideal solution for all spaces and activities—either as a source of light or as an element of brightness. The advantages, spatial effects and emotional appeal of the well-planned "transparent screen" may be overshadowed by the environmental problems created unless these problems are recognized and controlled.

Where the designer plans the lighting as a ceiling pattern of luminous elements, this system too can introduce a generally diffuse lighting quality to the space. The illustrations here indicate two examples of this very widely-used and variable technique. The first (13) involves direct-indirect units, while the second (14) shows a pattern of indirect coffers. In both cases, other supplementary systems (downlights, spotlights and wall washes) counterbalance the uniformity of the luminous base, reintroducing points of focal attention, form, sparkle and brightness contrast.

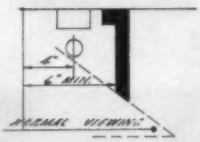
Representative wall "accent" techniques (fluorescent)



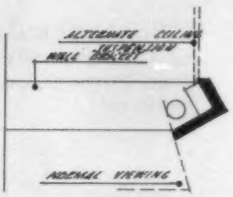
Valance: above eye level



Bracket: at or near eye level

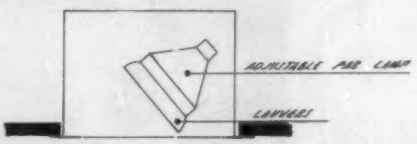


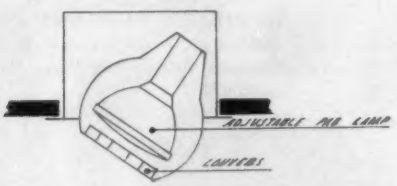
Cornice: no upward component

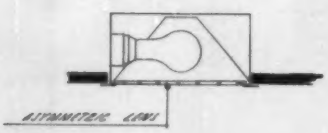


Extended (or suspended) unit

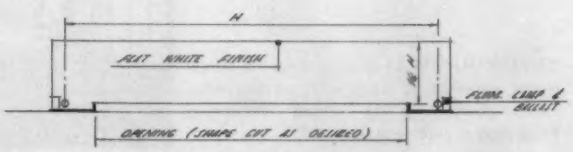
Representative wall "accent" techniques (incandescent)

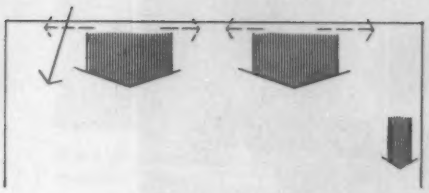






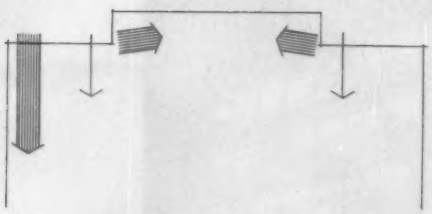
Coffer design techniques



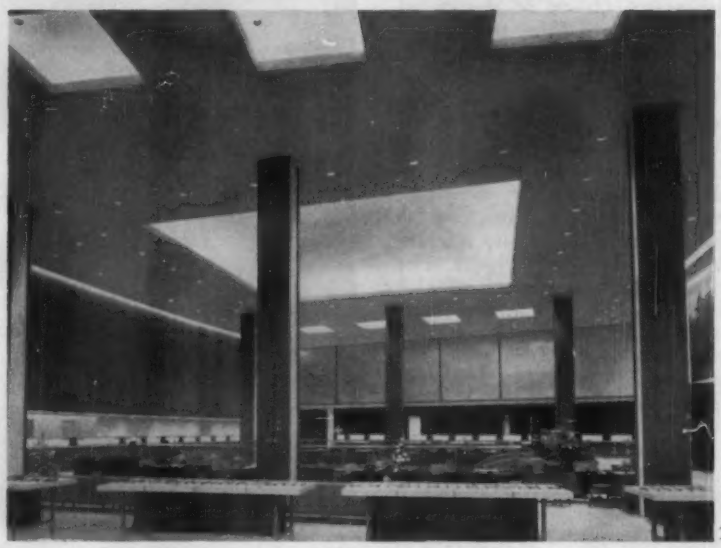


Direct-indirect units give ceiling pattern of large luminous elements. Generally diffuse light is accented by spots and washes

13



Downlights and washes again counterbalance uniformity of light from large luminous elements—in this case, indirect coffers



14

LIST OF ILLUSTRATIONS, PAGES 232 TO 242

1—Seagrams Building, New York. *Mies van de Rohe & Philip Johnson, Associated Architects, Richard Kelly, Lighting Designer*
2—Virginia Museum of Fine Arts, Richmond, Va. *Eggers & Higgins, Architects*
3—Information Center, Williamsburg, Va. *Williamsburg Staff Architects; Gerald B. Ewing, Lighting Designer*
4, 5, 6—Prudential Building, Chicago, Ill. *Naess & Murphy, Architects*
7—Church of St. Clement, Alexandria, Va. *Joseph H. Saunders, Jr., Architect*
8—Temple Emanu-El (Chapel), Dallas, Tex. *Howard Meyer, Architect; Richard Kelly, Lighting Designer*
9—Park Synagogue, Cleveland, Ohio. *Eric Mendelsohn, Architect*
10—General Motors Technical Center, Detroit, Mich. *Saarinen & Associates, Architects*
11—Merchants & Manufacturers Club, Chicago, Ill. *Victor Gruen & Associates, Architects*
12—Pennsylvania Station, New York City. *Lester C. Tichy, Architect; Lewis Smith, Lighting Designer*
13—Dayton's Dept. Store, Southdale Shopping Center, Minneapolis, Minn. *Victor Gruen & Associates, Architects*
14—Bank of the Southwest, Houston, Texas. *Kenneth Franzheim, Architect*
15—Manufacturer's Trust Co., New York City. *Skidmore Owings & Merrill, Architects; Eleanor LeMaire, Interior Designer*
16—Rich's Dept. Store, Atlanta, Ga. *Stevens & Wilkinson, Architects; Abe Feder, Lighting Designer*
17—St. Louis Air Terminal, St. Louis, Mo. *Hellmuth, Yamasaki and Leinweber, Architects, Henry J. Poehling, Lighting Designer*

LIGHTING: *Exterior spaces*

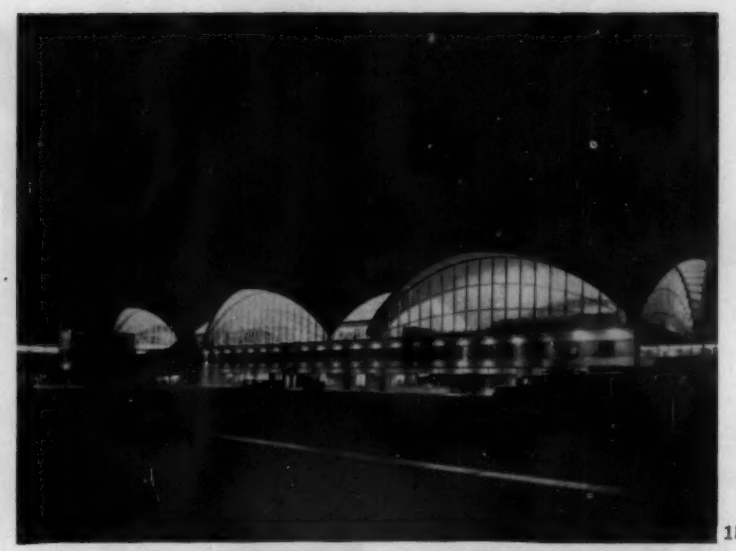
Just as the lighting of interior space can express the planned environment and the emotional quality desired by the architect, so exterior space can express its organization through planned patterns of brightness compatible with the activities and circulation needs.

Exterior lighting involves many of the same principles and lighting conditions that have been discussed for interiors. When the building itself is treated as an object of sculptural form displayed within the larger space of its natural or man-made surroundings, light molds this form just as it does any piece of displayed sculpture or merchandise.

Natural light renders the building with a "wash" of diffuse light periodically spot-lighted by a direct source, the sun. This condition is similar to that of the diffuse interior and has similar characteristics. The principal difference is that interior space can be controlled in respect to *both* form and light, while in exterior design (in daylight), we have no control over the light condition and must manipulate the building form and its detail to comply—as architects have done down through the ages.

At night, however, the situation becomes almost identical in many ways with the high contrast dramatic interior. The designer is now free to manipulate both light and form. Architecture takes on a "second aspect" —a second expression of the building's use, of its form and color, and of the ingenuity of its designer.

The interior lighting of the ceiling and wall surfaces, beside affecting the previously discussed conception of interior space, can also become a major factor in determining the exterior appearance (and appreciation) of the building viewed at night. Sometimes this effect has value as a public relations or advertising technique—but for the architect, it suggest that the building's character can and should be expressed inside and out, day and night. At all times a building is, in a sense, a composition of design elements—and the clarity or unity of this composition depends on the character and organization of the light that renders it.

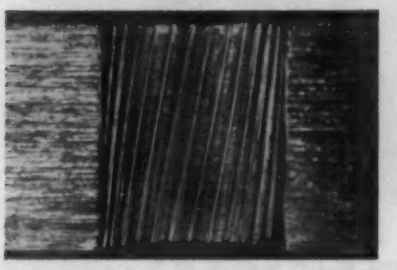


15

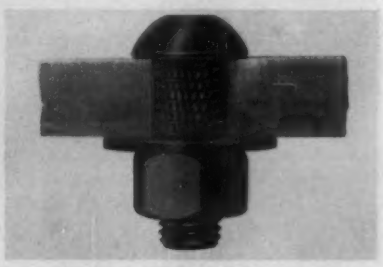
16

17

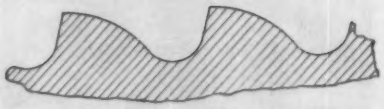
HOOK KNURLS ADD BODY-BOUND FIT TO HIGH TENSILE BOLTS



When driven, knurled bolts cold-work joint material, producing spiral-grooved holes



Bearing bolt is shorter than standard h-s bolt, requires no washer under bolt head



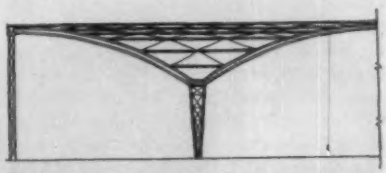
Entry face is ball-shaped for easier driving; angled back develops "hooking" action

A new fastener for building steel that is bearing through most of its length and uses one less washer than the standard high-strength bolt has been announced by Lamson & Sessions Co., the designers, and has been used in construction with good results. The fastener is a high strength bolt with a special knurling on the shank. This knurling is done in a shallow spiral and each knurl has a ball-shaped entry surface with the back relieved at an angle to form a buttress which, while strengthening the knurl, makes the bolt easier to drive by eliminating pile-up of sheared material and consequent galling of the hole. The bolt itself is slightly tapered for half the grip length and the head is shaped to conform to the standard rivet set. All these features are said to make the bolt easy to drive through a misaligned hole far enough so that it can be pulled in the rest of the way with the nut. The bearing bolts are $\frac{1}{8}$ in. shorter than standard high-strength bolts and use one washer under a standard nut.

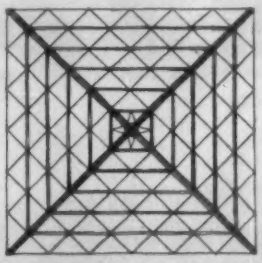
Results of tests conducted on the new fastener by Professor W. H. Munse of the University of Illinois have been published in a report entitled "An Evaluation of the Behavior of Structural Connections Assembled With Hook-Knurl Bolts," which is available from the Lamson & Sessions Co., Cleveland 2, Ohio.

BRITISH-MADE "MUSHROOMS" AT THE BRUSSELS FAIR

British Industries Pavilion during construction is an airy web of mushroom-shaped supports enclosed in a curtain wall frame of prefabricated timber stiffened by light steel braces



Section through support shows column, ribs, girders and bracing for exterior wall



Latticed steel girders form folded slab, act as ring ties between diagonal ribs

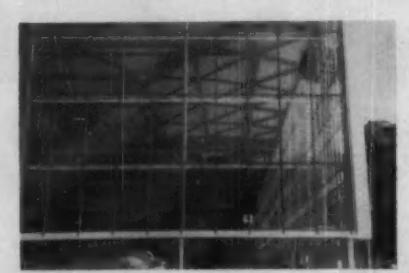
Of the many steel-framed buildings that sprang up on the grounds of the Universal and International Exhibition in Brussels this summer, one of the more interesting was the mushroom-columned pavilion that housed the exhibits of the Federation of British Industries. Its announced purpose was to show British-made wares, and the building indeed resembled a giant showcase, with its glass-clad walls revealing even the workings of the electrical substations within.

The inner workings of the structure itself, however, are perhaps more intriguing, if for no other reason than that its 60,000 sq ft of roof rest on only six columns. Each column is located at the center of a square bay made up of latticed girders spanning as a folded plate between curved diagonal ribs. The ribs and columns act as three hinged frames with the horizontal members of the girders acting as ring ties; the whole assembly forms a distinctly mushroom-like support.

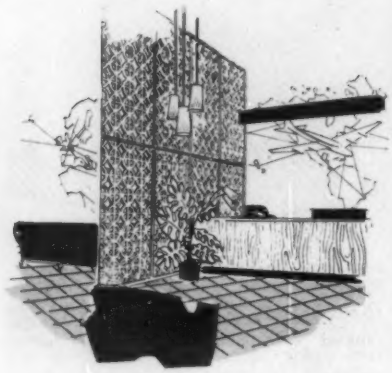
The exterior walls are completely glazed with fixed glass set in a low cost prefabricated curtain wall framing system of glue-laminated timber stiffened with light steel lattic wind braces. At the south end, a mural in opaque colored glass is used to reduce solar heat gain and glare.

Architects for the pavilion were Edward D. Mills and Partners, with Felix J. Samuely and Partners as consulting engineers.

more roundup on page 256



Quickly-erected frame for glazed curtain wall is of low cost, glue-laminated timber

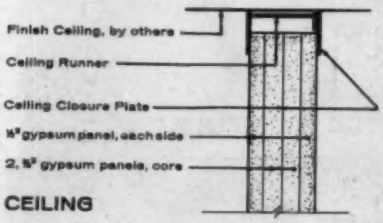


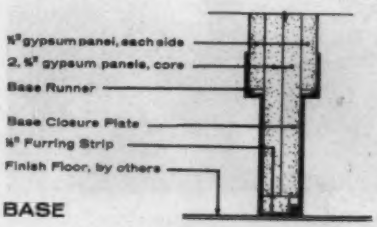
"WROUGHT" ALUMINUM SCREENS FOR INDOORS AND OUT

While decorative metal work is certainly not new to architecture, its current revival has produced some new twists, the latest being the use of "carved" anodized aluminum in screens and grilles that are reminiscent of wrought iron in feeling; lighter in design, in color and in actuality. Fabricated of solid metal in thicknesses ranging from ¼ to ¾ in. and sizes ranging from 2 by 2 to 4 by 12 ft, they are strong and durable but less bulky than screens of most conventional materials, and can be installed in standard window mullions or curtain wall units. Maintenance costs, as might be expected, are negligible. Any flat design or pattern with a minimum radius of 5/32 in. can be accurately reproduced, or the architect may select a stock pattern. The colors, necessarily limited to those obtainable through the anodizing process, are red, blue, green, gold, brass, bronze, copper or natural, with others available on special request. *Morris Kurtzon, Inc., 1430 S. Talman St., Chicago 8, Ill.*

MOVABLE WALLS WITH AN AIR OF PERMANENCE

Movable wall systems have become well nigh standard for office interiors, but in many instances their chief asset is also a liability: impermanent walls often *look* that way. One type that doesn't is the *Vaughan Wall* which combines several kinds of floor and ceiling runners and door frames with laminated gypsum panels in various thicknesses and finishes, including wood veneer, paint and vinyl. Fabricated on the job in 2 ft modules and heights up to 12 ft, the panels are installed in the usual way and have the usual advantages of flexibility, mobility, salvagability, integral wiring, etc. They also have tongue-and-groove joints which eliminate intermediate posts and create the illusion of a continuous permanent wall. Less illusive are such attributes as a .42 sound rating, a one hour fire rating and a cost reportedly less than that of similar movable wall systems. *Vaughan movable interior Walls, Inc., 11681 San Vincente Blvd., Los Angeles 49, California.*





NAKASHIMA-DESIGNED FURNITURE: TOMORROW'S TRADITIONAL?

A New York newspaper recently described the emerging "architectural" style in furnishings as being "square and boxy as if designed by an architect." By this definition, nothing could be less architectural than the furniture grouping shown at right —which *was* designed by an architect. A sampling from Widdicomb-Mueller's new *Origins* collection by George Nakashima, the pieces reflect the love of fine craftsmanship and fine materials that characterizes Nakashima's approach to design, architectural and otherwise: a walnut cocktail table is inlaid with Carpathian elm, dowels are left exposed, the natural sap line of the wood becomes a primary decorative feature. Seating pieces include a cane-backed sofa and a tall "butterfly wing" chair of walnut upholstered with foam rubber, as well as occasional chairs whose seats and backs are formed of hand-shaved spindles. Tables, storage units, room dividers and other occasional pieces round out the collection. *Widdicomb-Mueller Corp., 514 Fifth St., Grand Rapids, Mich.*

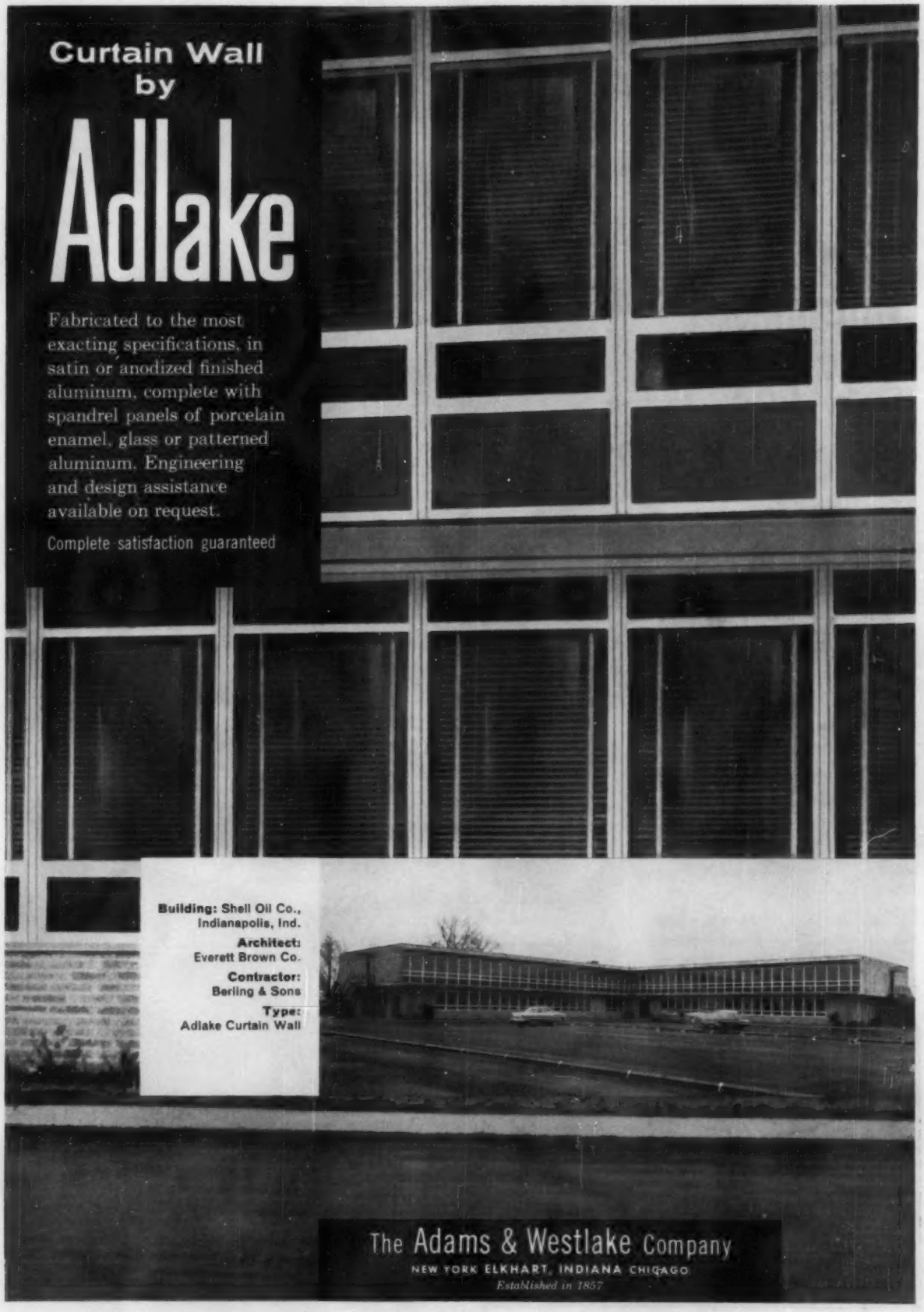
more productions on page 272

Curtain Wall
by

Adlake

Fabricated to the most exacting specifications, in satin or anodized finished aluminum, complete with spandrel panels of porcelain enamel, glass or patterned aluminum. Engineering and design assistance available on request.

Complete satisfaction guaranteed



Building: Shell Oil Co., Indianapolis, Ind.
Architect: Everett Brown Co.
Contractor: Berling & Sons
Type: Adlake Curtain Wall

The Adams & Westlake Company
NEW YORK ELKHART, INDIANA CHICAGO
Established in 1857

Richmond Memorial Hospital in Richmond, Va.

Architect: Samuel Hannaford & Sons, Cincinnati, Ohio
Associate Architect: Baskervill & Son, Richmond, Va.
Engineer: Watson & Hart, Greensboro, N.C.
General Contractor: John Tester & Son, Washington, D.C.

"Durable, pleasant-appearing jobs"... WITH LEHIGH MORTAR CEMENT

"The importance of good masonry mortar in obtaining durable, pleasant-appearing jobs is many times underestimated," says Charles Hudgins, Superintendent for John Tester & Son.

"The use of Lehigh Mortar Cement helps me hold the line on costs in today's highly competitive market. Moreover, our bricklayers like the way Lehigh Mortar spreads."

This is the kind of satisfaction Lehigh Mortar Cement is giving on countless masonry jobs all over America. You can approve its use with the assurance that it exceeds the most rigid Federal and ASTM specifications.

LEHIGH PORTLAND CEMENT COMPANY *Allentown, Pa.*

(*Above, and at left*) *The Cora Kelly School in Alexandria, Va.*

Architects: Robert A. Willgoos, Dwight G. Chase, Alexandria, Va.
General Contractor: John Tester & Son, Washington, D.C.

PUBLIC SWIMMING POOLS: 4

*Minimum Standards prepared by the National Swimming Pool Institute**

Items are numbered consecutively for convenience in identification

20. Filters, Diatomite: Where diatomite filters are used, they may be of either pressure or vacuum type. The filter rate shall not exceed 2.5 gpm per square foot of filter surface area.

The cycle of operation between cleaning of the diatomite filters shall be not less than a 24 hr period of continuous operation and this shall not be deemed to apply to initial operation of a pool, but only after operation for a period of 3 days or such period as is necessary to initially clear the pool.

Provisions shall be made to introduce a pre-coat to completely cover the filter elements, upon placing the equipment in initial operation and/or after each cleaning. The equipment shall be so arranged that during pre-coating, the effluent will be refiltered or disposed to waste without passing into the pool until the effluent is clear of suspended matter.

Equipment shall be provided for the continuous feed of filter aid to the filter influent and the equipment shall have a capacity to feed not less than 0.1 lb of this material per square foot of filter area over a 24 hour period.

Exceptions to the above may be made in Types B, C, D, E & F pools, in cases where this equipment need not be provided.

The tank containing the diatomite filter elements shall be constructed of intermediate carbon steel, plastic or other suitable material which will satisfactorily provide resistance to corrosion, with or without coating, and shall be of adequate strength to resist all stresses resulting from loading with a factor of safety of 4, in relation to the ultimate strength.

The septum or elements which support the filter aid shall be of corrosion-resistant material and shall be provided with openings, the minimum dimension of which shall be not greater than .005 in.

The septa shall be constructed to be adequately resistant against crushing or deformation, with the maximum differential pressure between influent and effluent of not less than the maximum pressure which can be developed by the circulating pump and of adequate strength to resist the stresses developed by the cleaning operation, with the impact developed from an accelerated washing operation.

In the complete filter installation, where dissimilar metals are used which may set up galvanic electric currents, the metals shall be insulated with a suitable dielectric which will satisfactorily prevent corrosion from electrolysis.

The filters shall be designed and installed in such a manner that they can be readily disassembled and elements removed and they shall not be installed where inadequate working space above or around is available for such disassembling.

The filter plant shall be provided with pressure differential gauges and air-relief outlets where necessary.

21. Filters, Other: In the absence of complete information on operating characteristics, durability, etc., of cartridge and other type filters, no minimum standards can be established at this time and their installation on public pools may only be made on a trial basis.

22. Compound Gauge: The pump suction header shall be provided with a compound gauge between the pump strainer and the pump, which will indicate both positive and negative head.

23. Strainers: At all pressure type filter plants or where the circulating pump is used for vacuum cleaning the pool, a suitable strainer or screen shall be provided to remove solids, debris, hair, lint, etc. Where a wet well is provided, the strainer shall consist of a removable screen through which all water entering the pump shall pass. Where no wet well is provided or where the suction cleaner or any other suction line is piped directly from the pool to the pumps, a pot-type strainer with removable strainer basket shall be provided. The strainer basket shall be of rigid construction sufficiently strong to prevent collapsing when clogged. One extra strainer basket shall be provided.

Any type of screen or strainer basket shall be fabricated of a corrosion-resistant material or shall have a protective coating of such material.

Screen or strainer basket shall have maximum openings no greater than ¾ the size of the solids which will pass through the pump impeller without clogging and the total clear area of all openings shall be not less than 4 times the area of the largest sized pipe from the pool to the strainer influent.

24. Rate-of-Flow Indicator: Every swimming pool provided with recirculation and refiltration system shall be provided with a rate-of-flow indicator on the pump discharge line leading to the filters and shall be calibrated for measuring both water for filtration and backwash and the activating element creating the pressure differential for indication of flow shall be installed with adequate clear distance upstream and downstream to obtain a reasonable degree of accuracy.

The rate indicator shall be calibrated for and provided with a scale reading in gallons per minute and shall have a range of 10% below the established filtration rate and 10% above the backwash rate established.

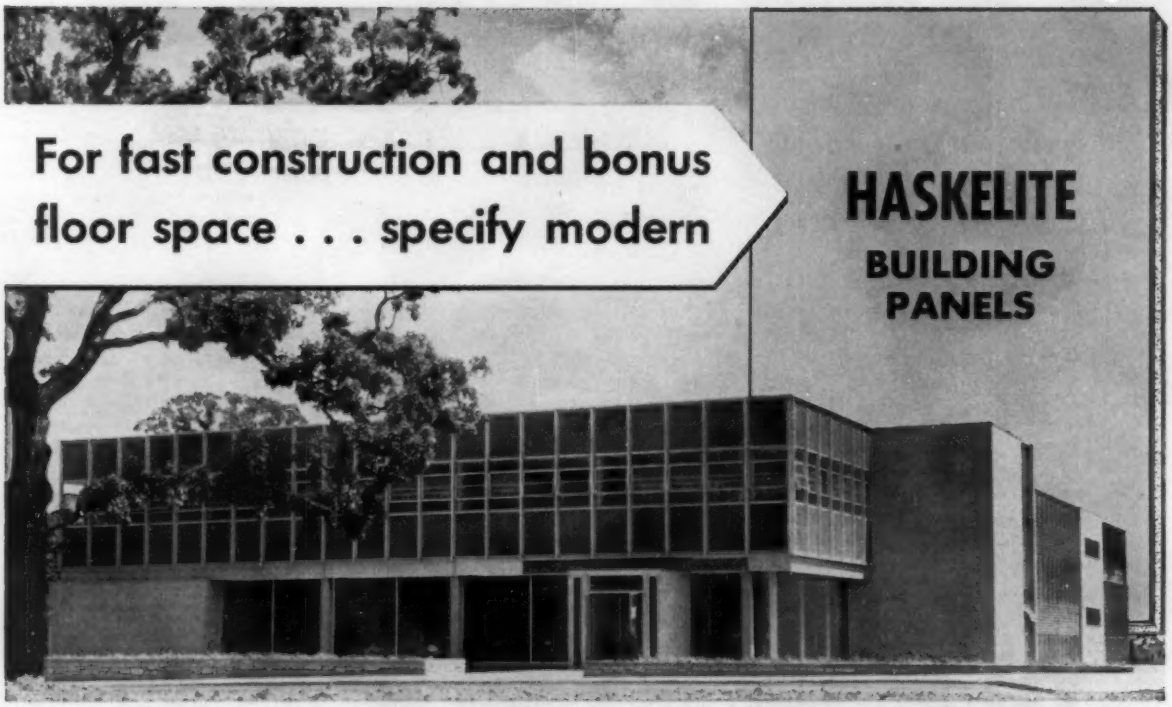
Where diatomite filters are used, the activating element of the flow indicator shall be installed in the filter effluent line.

POOL POPULATION, SANITARY FACILITIES

25. Capacity of Pool in Bathers: The maximum number of persons in bathing attire within the pool enclosure or the bathing area shall be limited to one person per 20 sq ft of pool and deck area combined.

26. Bathhouse: Adequate dressing and sanitary plumbing facilities shall be provided for every public swimming pool. An exception to this may be made in Types B, C, D, E & F pools where available facili-

* The technical data presented here gives basic requirements for public and semi-public design, systems and equipment. It is intended by the NSPI to serve as recommended minimum standards, and not as a model code.



For fast construction and bonus floor space . . . specify modern

HASKELITE BUILDING PANELS

■ Buildings go up faster . . . construction costs go down . . . floor space increases with versatile Haskelite building panels on the job.

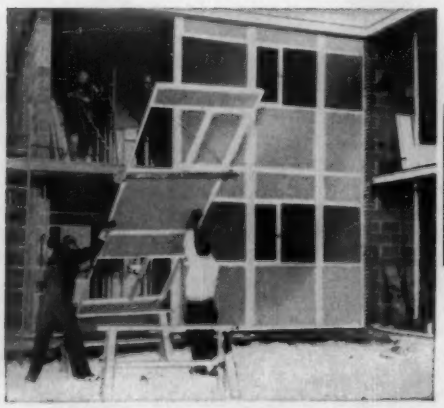
Along with being prefinished, Haskelite plastic laminated panels are structurally strong, moisture-proof, noncorrosive, rot-proof, vermin-proof, lightweight and provide a constant insulating value. They add a modern appearance to curtain and window wall buildings . . . are easily installed with a minimum of labor.

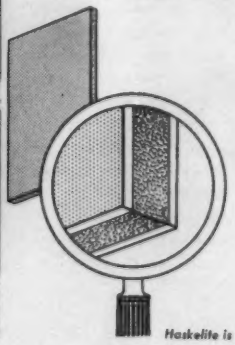
Haskelite panels are available in a wide range of stock sizes and thicknesses, or in special sizes when specified. For the complete story on the advantages of Haskelite panels, write: Haskelite Manufacturing Corporation, Department BQ-11, Grand Rapids 2, Michigan.

Monsanto Chemical Company's new laboratory in St. Louis represents the most thorough use of plastics in a commercial building in the world. Haskelite panels played a basic structural role in this new building. Architect—Holabird & Root & Burgee, Chicago.

The modern, attractive appearance that can be gained with Haskelite panels is shown here in the students' dormitory at Marion College, Marion, Ind. Architect—Orus O. Eash, Fort Wayne, Ind.

New student housing project at Michigan State University goes up rapidly with Haskelite panels. Entire wall can be installed without using expensive erection equipment. Architect—Manson Carver Associates, Lansing, Mich.





These lightweight panels incorporate Haskelite's own Polyester Resin impregnated fiberglass cloth faces, bonded to cement asbestos interbands, and a foamed polystyrene core.

HASKELITE

HASKELITE

MANUFACTURING CORPORATION

Grand Rapids 2, Michigan

Subsidiary of Evans Products Company

Haskelite is a registered trademark, see our listing in Sweet's Catalog

PUBLIC SWIMMING POOLS: 5

Minimum Standards prepared by the National Swimming Pool Institute

ties are provided in connection with the general development for other purposes, etc., of adequate capacity and number, in close proximity to the pool.

Every bathhouse shall be provided with separate facilities for each sex with no inter-connection between the provisions for male and female. The rooms shall be well-lighted, drained, ventilated and of good construction, with impervious materials employed in general, finished in light colors and so developed and planned that good sanitation can be maintained throughout the building at all times.

(a) Minimum sanitary plumbing facilities shall be provided as follows:

Males: One water closet combination, one lavatory and one urinal shall be presumed to be adequate for the first 100 bathers.

One water closet and one urinal shall be provided for each additional 150 bathers or major fraction thereof. One lavatory shall be provided for each 200 additional bathers.

A minimum of three shower heads shall be provided which shall be presumed to be adequate for the first 150 males and one shower outlet shall be provided for each additional 50 male bathers.

Females: A minimum of two water closet combinations shall be provided in each bathhouse building and this shall be presumed to be adequate for the first 100 females.

One additional water closet combination shall be provided for each additional 75 females or fraction thereof.

A minimum of two shower heads shall be provided, which shall be presumed to be adequate for the first 100 females and one shower shall be added for each 50 additional females.

One lavatory shall be provided as a minimum, which shall be considered adequate for the first 75 females. One additional lavatory shall be provided for each additional 75 females in attendance, or major fraction thereof.

These minimum criteria for bathhouse plumbing facilities shall be based upon the anticipated maximum attendance in bathers. Facilities for either sex shall be based upon a ratio of 60% of the total number of bathers being male and 40% being female.

Shower and dressing booths shall be provided in female dressing space and dressing booths shall be provided with curtains or other means of seclusion. This condition may be subject to variation for schools and other institutional use where a pool may be open only to one sex at a time.

(b) *Drinking Fountain:* Not less than one drinking fountain shall be provided available to bathers both at the pool and in the bathhouse.

(c) *Hose Bibbs:* Hose bibbs shall be provided for flushing down the dressing rooms and bathhouse interior.

The floors of the bathhouse shall be concrete, free of joints or openings and shall be continuous throughout the area with a very slight texture to minimize slipping but which shall be relatively smooth to ensure complete cleaning. Floor drains shall be provided to ensure positive drainage of all parts of the building with a slope in the floor of not less than ¼ in. per foot, toward drains.

(d) *Hot Water:* Heated water will be provided at all shower heads. Water heater and thermostatic mixing valve shall be inaccessible to bathers and will be capable of providing 2 gpm of 90 F. water to each shower head, and no other water shall be supplied.

No differences in elevation, requiring steps, shall be provided in the interior of male and female dressing areas. No steps shall be permitted between the bathhouse and the pool deck areas adjoining and should it be necessary that the bathhouse floor be at a different elevation from the pool decks, ramps shall be provided at the access doors. Where ramps are used between the bathhouse and pool decks, the slope shall not exceed 3 in. per ft and shall be positively non-slip.

All partitions between portions of the dressing room areas, screen partitions, shower, toilet and dressing room booths shall be of durable material not subject to damage by water and shall be so designed that a water way is provided between the partitions and floor to permit thorough cleaning of the floor area with hoses and brooms.

(e) *Soap dispensers:* Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory and between each pair of shower heads and dispensers must be of all-metal or plastic type and no glass permitted in these units.

(f) *Mirrors:* Mirrors shall be provided over each lavatory and toilet paper holders shall be provided at each water closet combination.

(g) *Water:* All water provided for drinking fountains, lavatories and showers shall be potable and meet the requirements and conform with the standards of the U. S. Public Health Service.

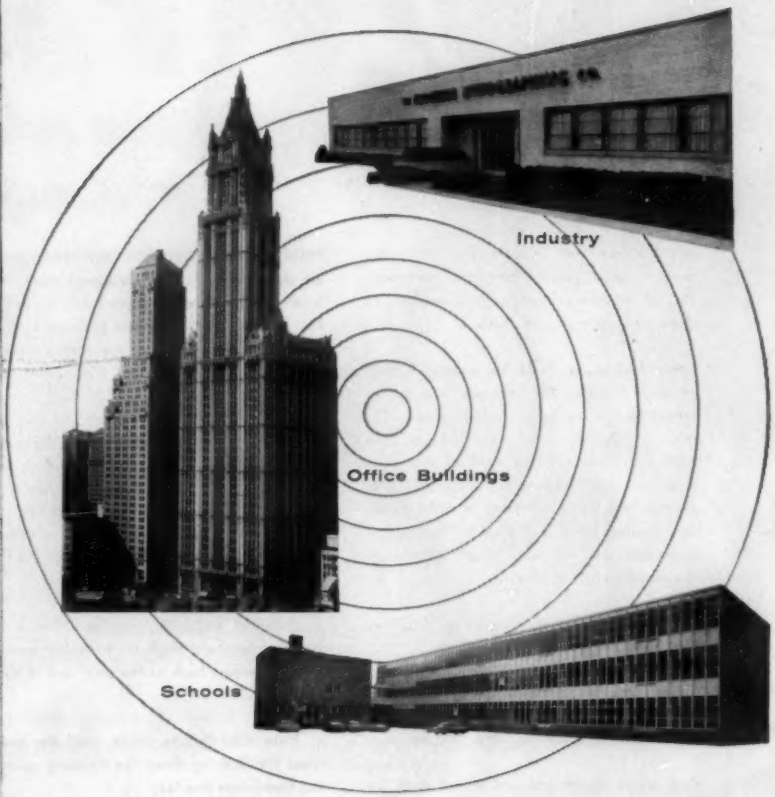
27. Food Service: Where provision is made for serving food and/or beverages at the pool, no containers of glass or other material which might be a hazard to bathers' feet, when broken, shall be used. The area shall be so arranged and posted to prohibit the consumption of food and beverages on the pool decks proper.

ELECTRICAL REQUIREMENTS

28. Lighting and Wiring

(a) *Submarine Lighting:* Where submarine lighting is used, not less than 0.5 watts shall be employed per square foot of pool area.

(b) *Area Lighting:* Where submarine lighting is employed, area lighting shall be provided for the deck areas and directed toward the deck areas and away from the pool surface insofar as practical in a total capacity of not less than 0.6 watts per square foot of deck area. Where submarine lighting is not employed and night swimming is permitted, area and pool lighting combined shall be provided in an amount of not less than 2 watts per square foot of total area.



Our business is communications

. . . a gentle chime . . . a blasting horn . . .
or a complete audio-visual communication system

Sperti Faraday leads in the instant sound or sight communication systems that speed today's business or institutional contacts. Whatever your problem, whether simple or complicated our engineers are at your service to assist you in designing the system that suits your needs.

This service is available to users without obligation. Simply call your nearest Sperti Faraday representative or write to Sperti Faraday, Inc., Adrian, Michigan. *In Canada*, write Sperti Faraday, Ltd., Montreal.

Sperti Faraday Inc.

SINCE 1875 DESIGNERS AND PRODUCERS OF VISUAL AND AUDIBLE SIGNALS

Adrian, Michigan

Specialists in: FIRE ALARM SYSTEMS • ELECTRICAL CLOCK SYSTEMS • HOSPITAL PATIENT OBSERVATION • CLOSED CIRCUIT TV • AUDIBLE SIGNALS • ANNUNCIATORS • CODED PAGING SYSTEM • SYNCHRONOUS CLOCKS • TRANSFORMERS • CONTACT DEVICES

PUBLIC SWIMMING POOLS: 6

Minimum Standards prepared by the National Swimming Pool Institute

(c) All wiring in connection with requirements for a swimming pool for lighting or power shall conform with the codes of the National Underwriters' Laboratories (National Electric Code).

(d) In addition to any other grounding, each submarine light unit shall be individually grounded by means of a screwed or bolted connection to the metal junction box from which the branch circuit to the individual light proceeds.

(e) *Overhead Wiring:* No electrical wiring for lighting or power shall be permitted to pass overhead within 20 ft of the pool enclosure.

DRAINAGE PIPING

29. Mechanical Pool Fittings: Where overflow gutters are installed, outlet spacing shall not be greater than 15 ft on centers.

Overflow gutter branch lines from each drain fitting shall be not less than 2 in. I.P.S.

Pool inlets and outlets shall be provided and arranged to produce a uniform circulation of water and the maintenance of uniform chlorine residual throughout the pool; there shall be at least four inlets for the smallest pool.

Provisions shall be made to adjust the flow through all inlets.

Maximum flow rates (in gpm) through various sized inlet branches shall be not more than as follows: Size & gpm; 1 in. = 10; 1¼ in. = 20; 1½ in. = 30; 2 in. = 50.

In pools with surface area greater than 1500 sq ft or length in excess of 60 ft, inlets shall be placed around the entire perimeter. In any case, an adequate number of inlets shall be provided, properly spaced and located to accomplish complete recirculation and the maintenance of a uniform and adequate sterilizing medium at all times.

30. Main Drain Spacing: When the outlets to pool pump suction are installed near the end of a pool, the spacing shall be not greater than 20 ft on centers. An outlet shall be provided not more than 15 ft from side wall.

The outlet grate clear area shall be such that when the maximum flow of water is being pumped through the floor outlet, the velocity through the clear area of the grate shall not be greater than 1½ ft per second. Outlet grates shall be anchored and openings in grates shall be slotted and the minimum dimension of slots shall be not more than ½ in.

Where outlet fittings consist of parallel plates, of so-called anti-vortex type where the water enters the fittings from the sides rather than through a grating facing upward, entrance velocities may be increased to 6 ft per second.

All pool fittings shall be of non-corrosive material.

31. Piping: The determination of sizes of pipe, fittings and valves on the complete main pump suction line from the swimming pool shall be based upon a rate of friction losses for piping of not more than 6 ft per 100 ft of pipe, based upon Hazen-Williams formulas for 15-year old piping.

All piping on the discharge side of the pump for filtration and to the point for discharge of backwash water from the filter plant shall have pipe sizes determined on a basis of friction losses which shall be not more than 12 ft per 100 ft and the velocity in any pipe shall not exceed 10 ft per second and pipe selection shall be made based upon Hazen-Williams formulas for 15-year old pipe. In the determination of pipe sizes required, the criterion which would call for the largest pipe size shall govern.

All pool piping shall be supported by piers or otherwise to preclude against possible settlement which will either provide dirt traps or air pockets and a condition which would result in rupture of the lines.

All pressure and suction lines shall have a uniform slope in one direction of not less than 3 in. per 100 ft. Gravity waste lines around the pool 6 in. or smaller shall have a minimum slope of ⅛ in. per ft. Lines larger than 6 in. and all outfall waste mains shall be designed with a size of pipe and slope to freely carry the maximum flows required with no surcharge or back pressure in the lines. All piping and equipment shall be provided with positive means of completely draining all water to prevent damage from freezing.

32. Direct Connections to Utilities: No direct mechanical connection between a source of domestic water supply shall be made to a swimming pool or to its piping, thereby eliminating a cross connection to what may become a source of contamination.

The water supply for filling the pool, when derived from a potable supply, shall be by means of an over-fall fillspout to the pool, or an over-fall supply to a surge tank, wherein the water will freely overflow at deck level or the top of the surge tank, before coming into contact with the water supply outlet.

The disposition of sanitary sewage from the bathhouse shall be into a sanitary sewer, a septic tank or other waste line which meets with the approval of local health authorities.

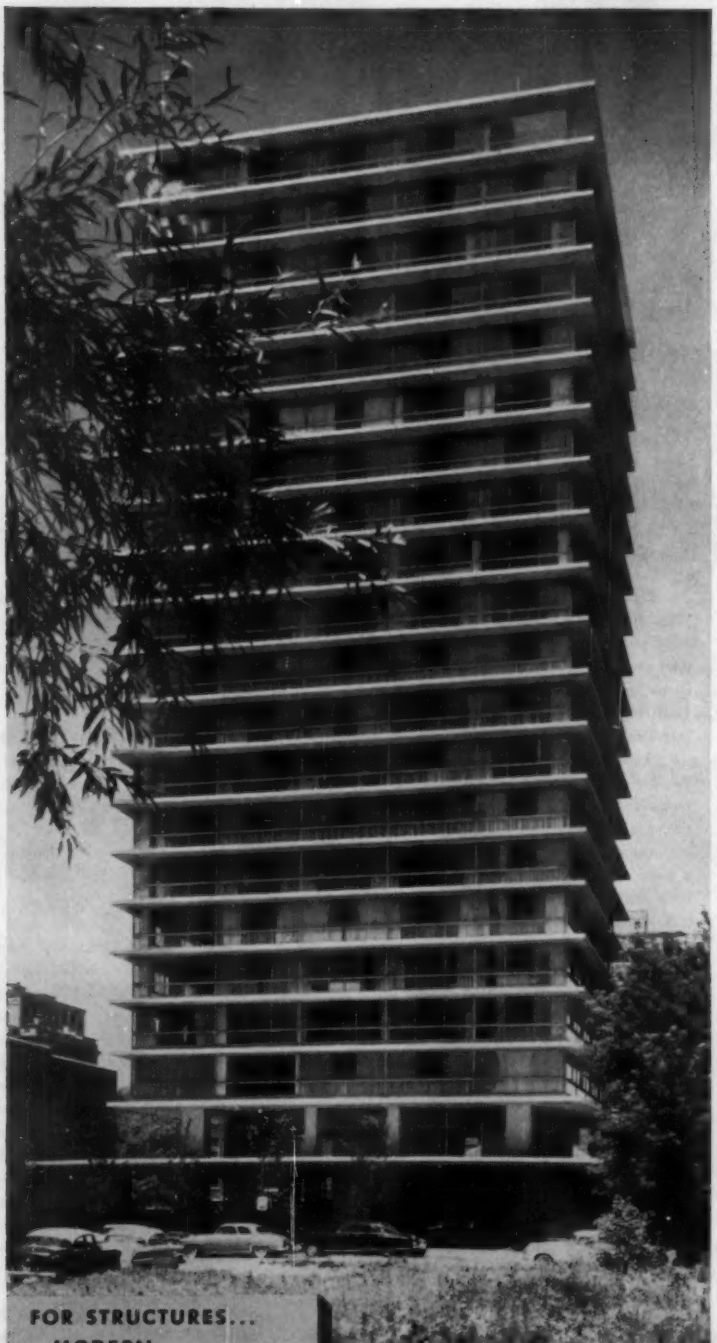
Whenever any waste from the swimming pool is connected to a sanitary sewer or a storm sewer, an air-gap or a relief manhole shall be provided which will positively preclude against surge or backflow introducing contaminated water into the swimming pool or the water treatment plant as covered elsewhere.

33. Pump and Motor: Pump and motor unit shall be provided for recirculation of the pool water which has been selected for performance and will meet the conditions of quantity required for filtering and cleaning the filters with the total dynamic head developed by the complete system. The requirements for filtration shall be based upon the maximum head loss developed immediately prior to washing the filters. The motor shall be non-overloading in continuous operation for filtration under all conditions but may be overloaded within the service factor for conditions of backwash and for emptying the pool.

Pump performance curve for the unit to be installed shall be provided and submitted to proper authorities.

Curtained with an acre of glass...this Chicago building is 100% reinforced concrete!

WHEN AMERICA BUILDS FOR DURABILITY . . . IT BUILDS WITH CONCRETE

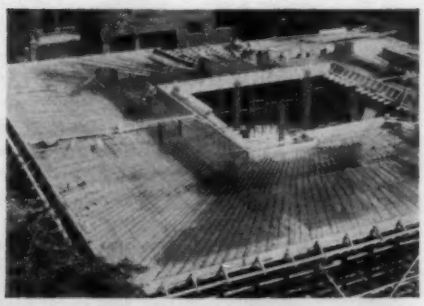


It's one of Chicago's finest luxury apartment buildings, 21 stories overlooking Lake Michigan at 320 Oakdale. Beneath its attractive exterior, 12,000 cu. yds. of concrete form a frame and floor skeleton of outstanding strength.

Architect Milton M. Schwartz of Chicago and structural engineers from Miller Engineering Co. chose reinforced concrete for its rigidity and durability—and passed along big bonuses in economy to their client, too.

Concrete saved an estimated $200,000 through reduced materials cost, easier construction scheduling. It made a simple job of the cantilevered overhangs. And because floors are flat slabs, it saved a full story in total height.

Concrete needs no special fireproofing. It can't rust or rot. No other material offers such low maintenance cost. More and more architects and engineers are specifying concrete frame and floor construction today. They're finding the same kind of economies for all structures, of both conventional and modern design.



Reinforcement being placed for large, cantilevered 2nd-floor slab, a construction so easily achieved in reinforced concrete.

FOR STRUCTURES... MODERN **concrete**

PORTLAND CEMENT ASSOCIATION

A national organization to improve and extend the uses of concrete

PUBLIC SWIMMING POOLS: 7

Minimum Standards prepared by the National Swimming Pool Institute

34. Vacuum Cleaner: Where facilities are installed integrally in the pool piping system for the operation of a vacuum cleaner, the piping shall be required to produce not more than 15 ft total head loss at the pump, while moving four gallons per minute per lineal inch of cleaner head.

35. Sterilizing Agent: Some means of sterilizing the pool water shall be used which provides a residual of sterilizing agent in the pool water. Either chlorine or bromine may be used for this purpose. In either case, adequate feeding equipment and equipment for testing residuals must be employed. Inasmuch as chlorine is almost universally used, minimum standards for the use of chlorine are given below.

In all public pools, chlorine shall be supplied by means of a gas chlorinator which controls and introduces the chlorine gas into water solution and introduces it into the pool water. Exceptions to this may be made in Types B, C, D, E & F swimming pools, where chlorine may be applied in the form of hypochlorites fed by a positive feed pump suitable for use with hypochlorite in solution.

Equipment for supplying chlorine or compounds of chlorine shall be of capacity to feed 1 lb of available chlorine per 3000 gallons of pool volume per 24-hour period. This may be reduced by 50% for Type E pools.

36. Instructions: All valves shall be permanently tagged and valve operating schedule shall be provided for every operation. Instructions shall be supplied in not less than two copies.

POOL WATER AND TREATMENT

37. Chlorine Compartment: Where gaseous chlorine equipment is provided below grade in a filter room or in any part of a building which provides housing, the mechanical proportioning device and cylinders of chlorine shall be housed in a reasonably gas-tight corrosion-resistant and mechanically vented enclosure. Air-tight duct from the bottom of the enclosure to atmosphere in an unrestricted area and a motor-driven exhaust fan capable of producing at least one air change per minute shall be provided. Automatic louvers of good design near the top of the enclosure for admitting fresh air are required. An opening at least 18 in. square, glazed with clear glass, and artificial illumination shall be provided in an amount such that the essential performance of the equipment may be observed, at all times, without opening the enclosure. Electrical switches for the control of artificial lighting and ventilation shall be on the outside of the enclosure adjacent to the door. The floor area of the enclosure shall be of adequate size to house the chlorinator, fan, scales and one extra chlorine cylinder. Gas mask approved by the Bureau of Mines for protection against chlorine gas shall be provided, mounted outside the chlorine compartment.

38. Coagulant Feeder: Coagulant feeder of cast-iron pot type with piping arranged to provide a restriction in the flow or other means of creating a pressure differential which will circulate a portion of the filter influent on a ratio proportionate to the rate of flow shall be provided. Pot shall be of good grade gray cast iron with quick-removable, tight-gasketed cover and will be piped with IPS brass pipe to circulate through the feeder with a tapping at the bottom of the feeder for entering water and a tapping at the top for supplying coagulant solution to the filter influent. Control valves, one of which shall be needlepoint type, and a drain cock for draining the equipment when the plant is out of operation shall be provided. The capacity of the pot shall be not less than 2 oz of lump or nut potassium alum per square foot of filter bed area.

39. Testing Equipment: A test set shall be provided for the determination of free chlorine residual and the pH hydrogen-ion content in the pool water of colorimetric type with test tubes and supply of phenol red solution and orthotoluidine agents. Color standards shall be as follows and the carrying case and test tubes shall be provided of plastic or other material which is permanent and unbreakable:

Chlorine color standards—0.1, 0.3, 0.6, 0.8 ppm; pH color standards—6.8, 7.2, 7.6, 8.0

40. Quality of Water: The equipment when operated in accordance with the manufacturer's instructions, shall provide water meeting the following standards:

(1) Shall meet United States Public Health Service requirements for bacteriologically potable water.

(2) Shall have a degree of clarity such that a disc 2 in. in diameter which is divided into quadrants in alternate colors of red and black shall be clearly discernible through 15 ft of water and the different colors readily distinguishable.

(3) Shall have a minimum free available chlorine residual at any point in the pool of not less than 0.25 ppm and not more than 1.0 ppm at any time.

(4) The pH or measure of hydrogen-ion content at no time shall be below 7.0 and shall be maintained between this limit and 8.0 on the hydroger-ion scale.

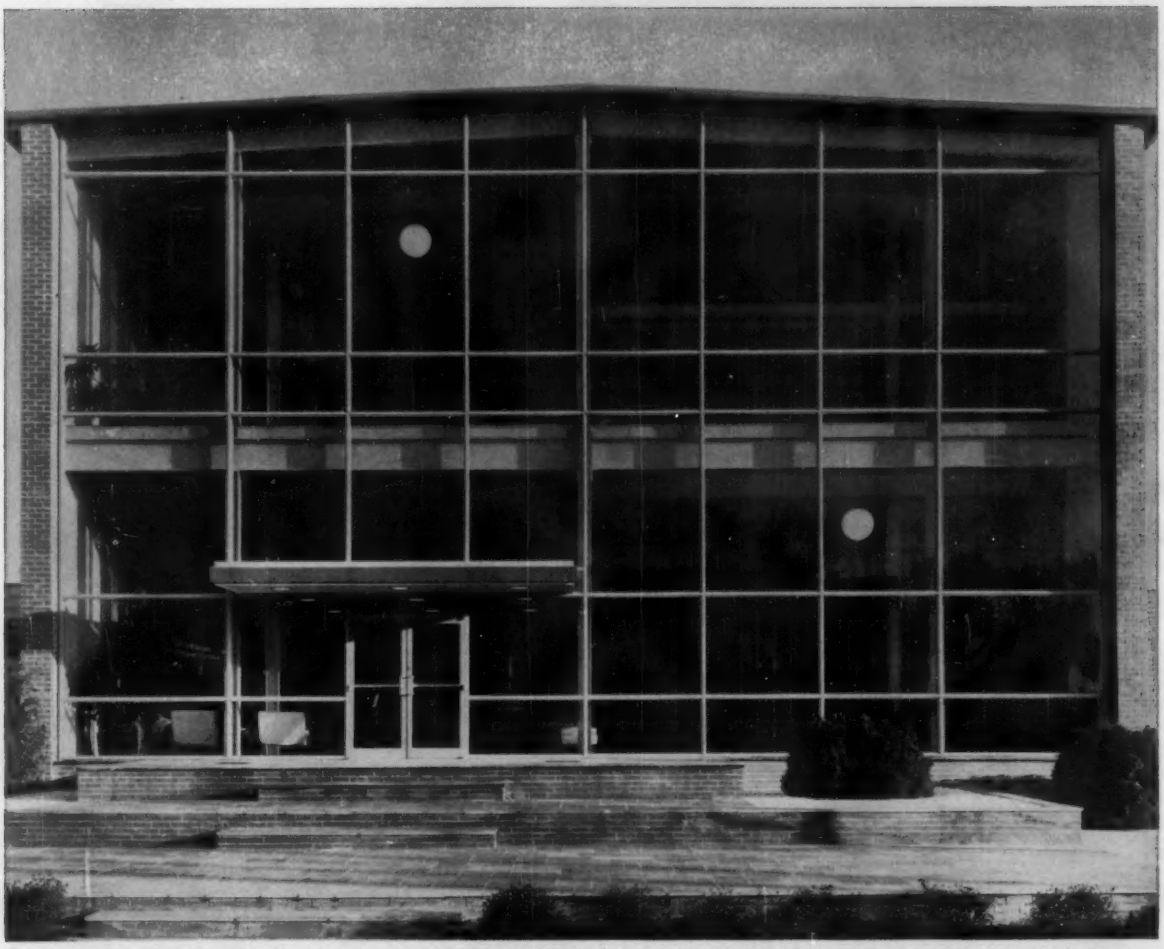
41. Pool Temperature: Temperature of indoor pools shall be maintained between 75 and 85 F., with exceptions made in Type E pools.

WADING POOLS

By definition, a wading pool shall normally be a small pool for non-swimming children, only, used only for wading and shall have a maximum depth at the deepest point not greater than 24 in.

Owing to the high degree of pollution likely to be present, a wading pool shall have a maximum turn-over cycle of 4 hours. The supply to the wading pool shall consist of filtered and chlorinated water from the large pool filtration and recirculation system. The circulating outlets from the wading pool may be wasted or may be returned to the circulation system of the large pool at the suction side of the pump for re-filtration. Also a waste outlet shall be provided at the deepest point of the wading pool, by means of which it shall be completely emptied to waste.

In general, standards of sanitation in circulation, surface skimming and all other details shall be equal or superior to those for swimming pools. It is considered to be very desirable to install a spray pool in lieu of a wading pool, wherein no water stands at any time but is drained away freely as it sprays over the area.



Showroom-Office, Dixie Furniture Co., Lexington, North Carolina. Architects: Louis F. Voorhees and Eccles D. Everhart, High Point, North Carolina.

New Overline Tilt-A-Front eliminates trial-and-error field work . . . cuts erection time by 60% over conventional wall framing methods

This unique concept of window wall framing is a combination of curtain wall techniques and hollow metal production methods. The result is a pre-engineered, economical wall framing system which presents an exceptionally rigid, structurally sound construction.

For example, units for the building shown here — which enclose an opening 50′ wide x 30′ high — were shipped in full height lengths. Intermediate horizontal members in four of the sections were shipped knocked down. The erector simply tilted and hoisted the welded units in place, secured them, then finished up by bolting in the horizontal members. Total installed cost—including Overline Colorclad entrances, hardware, freight, erection and glazing—slightly over $3.00 per sq. ft.

The Tilt-A-Front system is available in baked enamel steel (Colorclad), stainless steel or aluminum. For complete data, write today for our catalog 16a-Ovt.

Overly

METAL PRODUCTS SINCE 1908

MANUFACTURING COMPANY

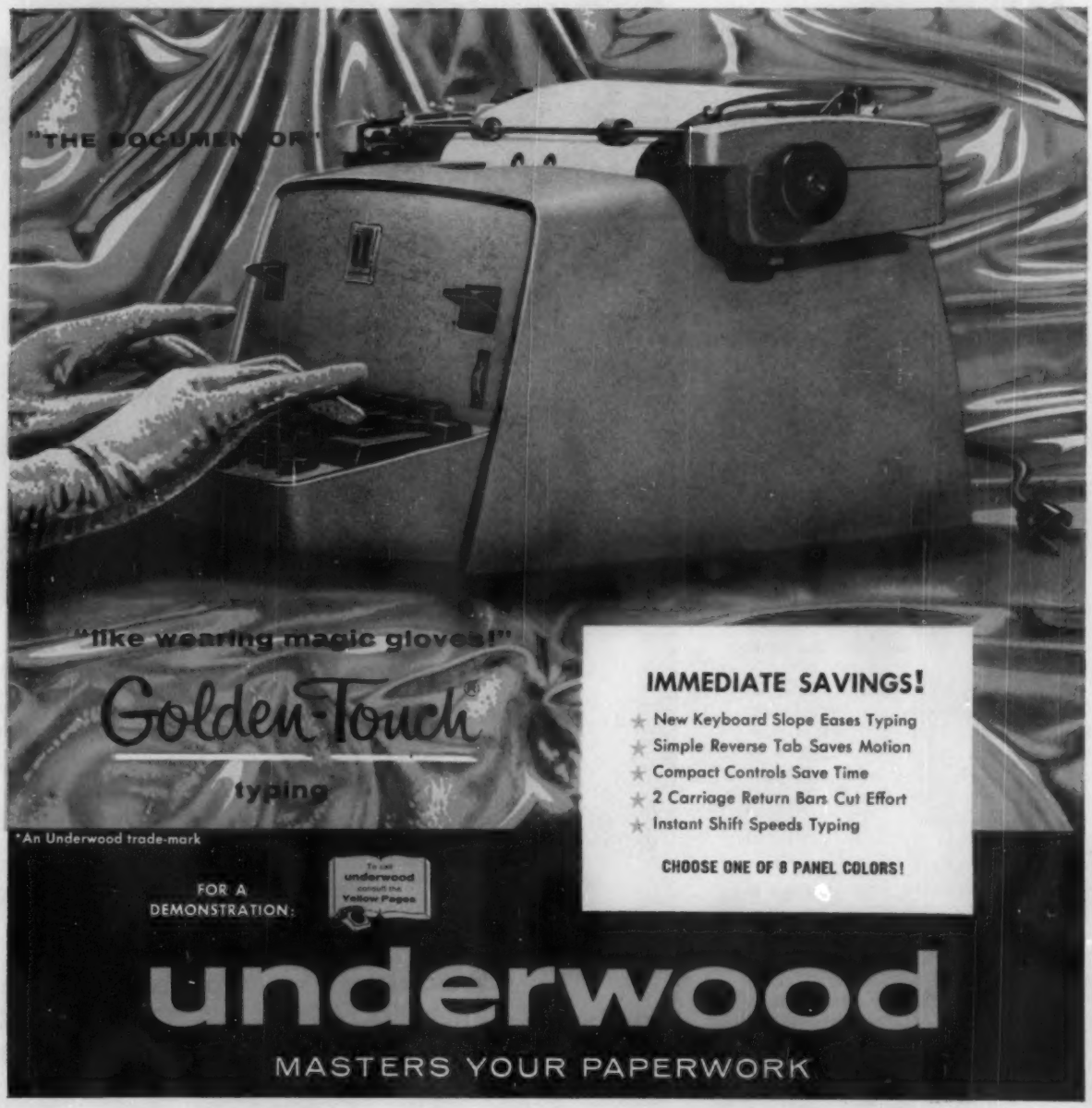
Greensburg, Pennsylvania
Los Angeles 39, California

1959 Golden-Touch Electric—by underwood

New "Floating Keyboard" helps stop typing strain!

Much typing strain comes from holding hands up at the keys. This *Floating Keyboard* is sloped to reduce fatigue. It keeps keys low, brings them close, centers controls. There's less hand-travel than on any other keyboard.

You choose your own type style with the new Golden-Touch DOCUMENTOR.* Keys are cup-shaped for easier *electric* touch. Impression control insures print-perfect copy—sharp carbons. Symbols (+=!°) add versatility. Try it soon!

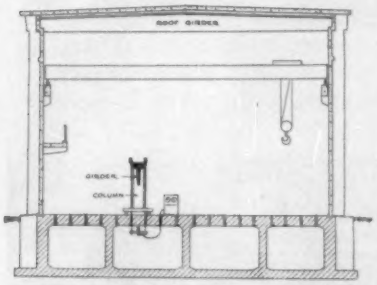


continued from page 243

Portland Cement Association Opens "World's Largest Testing Machine"

The Portland Cement Associations' new Structural Development Laboratory at Skokie, Illinois, is unique in that the building itself is a giant testing machine which will provide facilities for testing large scale structural elements up to 120 ft in length.

The testing floor is a 12 ft deep hollow box girder pierced by holes at 3 ft centers. In making a test,



steel rods are attached to the object under test, extended through holes in the floor, and attached to jacks underneath it. Test loads are applied by the jacks, which can exert a total force of as much as 2 million pounds on a 50 ft beam.

Two early projects being undertaken in the laboratory are aimed at improving methods of connecting precast concrete members and achieving continuity between prestressed members.

PHA Approves Use of Structural Steel for High-Rise Buildings

The Public Housing Authority has issued a circular to Regional Directors urging them to consider the use of structural steel framing for public housing projects. Because of the need for heavy fireproofing, reinforced concrete has heretofore been considered the most economical structural system.

The modification of the Authority's position followed a study of comparative cost estimates which showed that steel frames fireproofed with lath and plaster may be competitive with reinforced concrete frames for high-rise buildings.

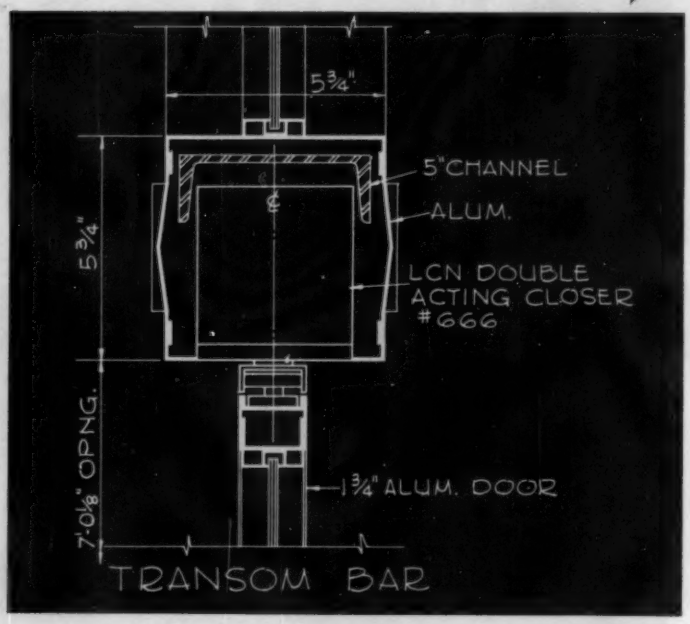
Skyscraper to Straddle Tracks Without Disrupting Rail Operation

A survey conducted by the planners of New York's mammoth Grand Central City project in consultation with engineer James Ruderman shows that the 50 story, 3 million sq ft structure can be erected over 123 railroad tracks without seriously affecting or being affected by train traffic in and out of Grand Central Terminal, which is on the site adjacent. According to Ruderman, the major problem will be scheduling the early demolition, excavation and steel work so as to minimize interference with rail operations.

He is currently formulating a plan to place the huge supporting columns for the estimated 50,000 ton steel skeleton between the tracks and platforms so that they do not impede the flow of train and passenger traffic. The foundations will go through both levels of track with steel grillages placed under the track.

The site study further revealed that the north wall of Grand Central Terminal cannot be incorporated into the new structure because at the time it was erected no provision was made for insulating its steel frame against train vibration. To produce a soundproof, vibration-free frame for Grand Central City, special insulation mats will be installed between the north wall of the Terminal and the adjacent south wall of the new building. Similar mats will also be used under the columns.

more roundup on page 260



CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Shown on Opposite Page

The LCN Series 644-666 Closer's Main Points:

1. Flap-free control for double-acting doors
2. Handles exterior doors of normal height up to 3′6″ wide; interior doors to 4′0″
3. Power applied by a lever arm; in-swing and out-swing are adjustable separately
4. Used for wood, metal or tempered glass doors having top members 1¾″ thick or more
5. Pivots included. Hydraulic back-check. No special threshold needed.

Complete Catalog on Request—No Obligation
or See Sweet's 1958, Sec. 18e/La

LCN CLOSERS, INC., PRINCETON, ILLINOIS

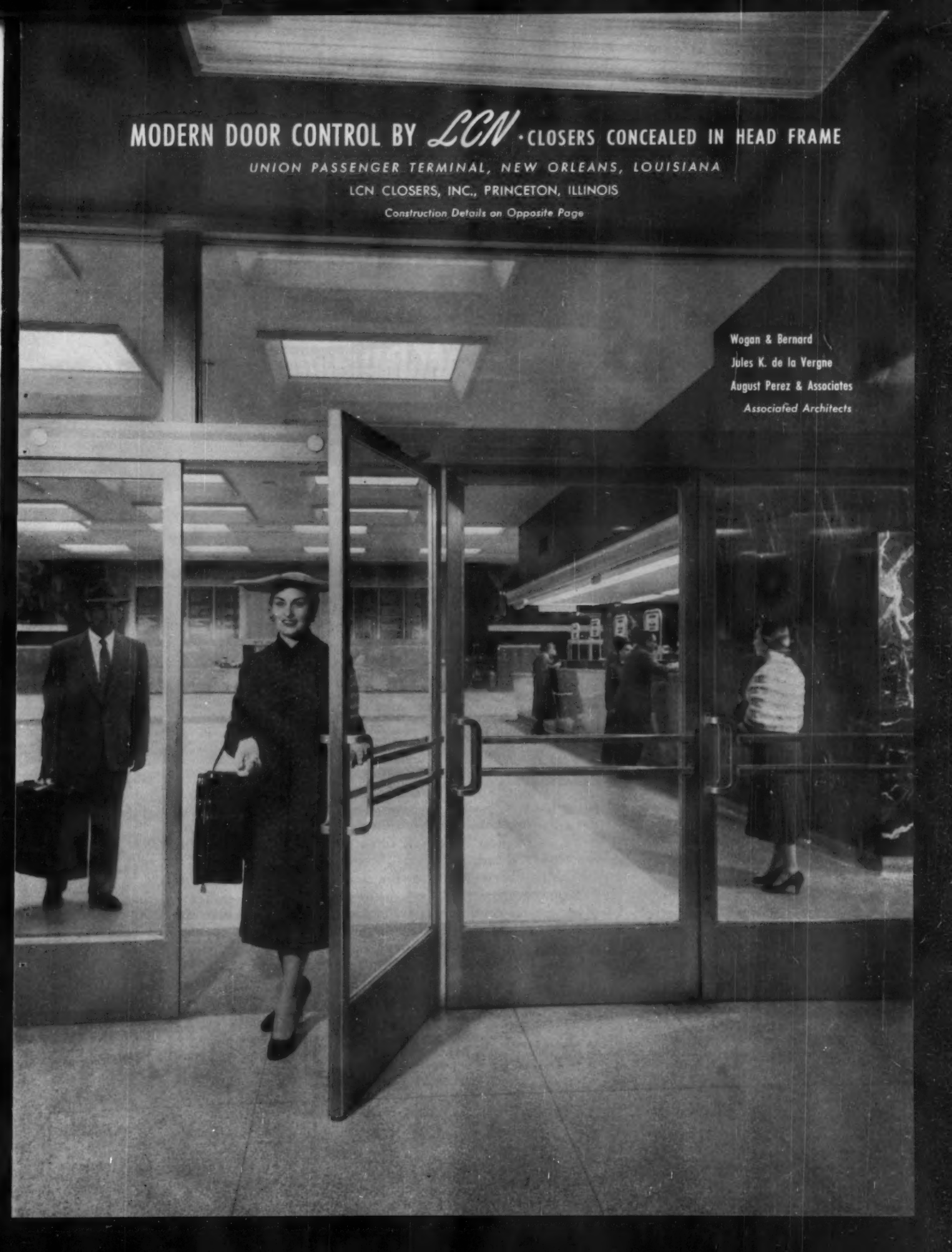
Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN HEAD FRAME

UNION PASSENGER TERMINAL, NEW ORLEANS, LOUISIANA

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

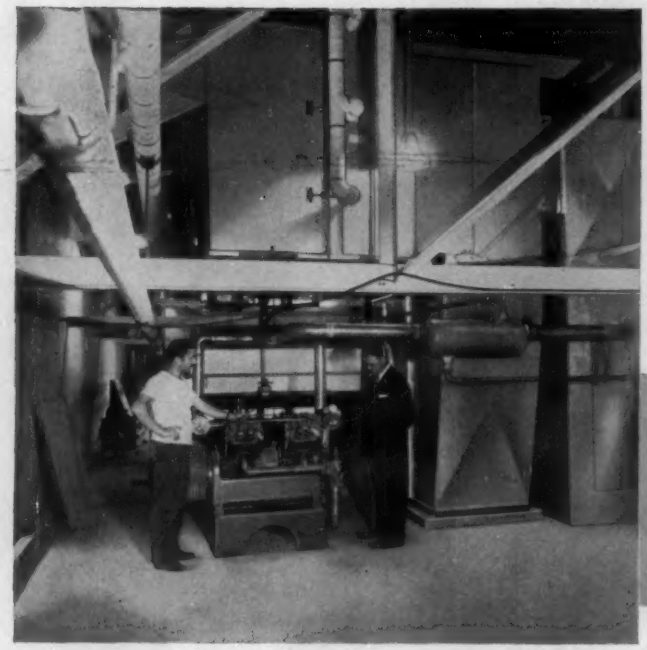


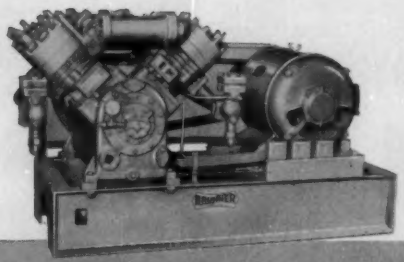
Wogan & Bernard
Jules K. de la Vergne
August Perez & Associates
Associated Architects

FOR THOSE BIG AIR CONDITIONING JOBS...

Compressors from the BIG BRUNNER LINE

SINCE 1906





LONG LIFE, RELIABLE OPERATION FEATURES OF BRUNNER COMPRESSORS INCLUDE:

- MOUNTING BASES CONSTRUCTED OF STRUCTURAL STEEL.
- LOW AND HIGH PRESSURE TYPE CONTROL.
- FORCE FEED LUBRICATION.
- PRESSURE RELIEF SAFETY VALVE.
- MODULATION AND UNLOADED START (optional).

Typical of the BIG air conditioning jobs where architects, consulting engineers and contractors have learned to rely on BRUNNER compressors is the new Bostitch plant in East Greenwich, Rhode Island.

75 HP compressors, 100 HP compressors—whatever the size requirement—there was a Brunner unit to satisfy the design conditions.

Rugged workhorses of the various air conditioning systems at Bostitch, these units are tied-in to Dunham-Bush evaporative condensers and serve ceiling mounted air handling units for the Stapling, Engineering and Drafting departments. They also serve Dunham-Bush multizone units for conditioning executive offices and cafeteria areas.

Select Dunham-Bush and Brunner for *single source service and responsibility.*

BRUNNER DIVISION
DUNHAM-BUSH, INC.
WEST HARTFORD, CONN.

DUNHAM-BUSH

AIR CONDITIONING • REFRIGERATION • HEATING • HEAT TRANSFER
WEST HARTFORD, CONNECTICUT • MICHIGAN CITY, INDIANA • MARSHALLTOWN, IOWA
RIVERSIDE, CALIFORNIA • BRUNNER DIVISION, UTICA, NEW YORK
SUBSIDIARIES
heat-x HEAT-X, INC. BREWSTER, N.Y. BRUNNER THE BRUNNER CO. GAINESVILLE, GA. DUNHAM-BUSH DUNHAM-BUSH (CANADA), LTD. TORONTO, CANADA
DUNHAM-BUSH DUNHAM-BUSH, LTD. LONDON, ENGLAND BRUNNER BRUNNER CORPORATION (CANADA) LTD. PORT HOPE, ONTARIO

HERE'S PROOF OF ECONOMY

...in beautiful-functional

School Construction

$7.69 per square foot complete

WESTMINSTER SCHOOL — WESTMINSTER, SO. CAROLINA
ARCHITECT — HAROLD WOODWARD, SPARTANBURG, SO. CAROLINA

...made possible by use of...

UNIT Laminated Members

For the past quarter century, Unit Structures, Inc. has pioneered in the continuing development of functional, fire resistive schools through the use of soundly engineered, permanent glued laminated wood members.

The use of clear spanning laminated arches and beams was a major factor in the low, low cost of $7.69 per sq. ft. achieved in the construction of the Westminster High School. The 5" x 13" classroom roof beams span 57'-3" over two classrooms and the middle corridor and bear on 5" x 8⅛" glued laminated exterior wall columns. The simple beam-to-column connection and the single element construction effected considerable erection savings, according to the Triangle Construction Co., General Contractors, Greenville, S. C.

The 7" thick Southern Pine arches, shown in the gymnasium, are spaced 17'-2" on center. The arch depth was tapered from 15" at the crown to 24" at the base, thereby economically utilizing the lumber in accordance with the structural requirements.

A continuous skylight was readily achieved by simple framing between the laminated wood purlins.

UNIT STRUCTURES, INC. PESHTIGO, WISCONSIN

UNIT STRUCTURES, Inc.

GENERAL OFFICES: PESHTIGO, WISCONSIN

PLANTS — Peshtigo, Wisconsin and Magnolia, Arkansas
Offices and Representatives in all Principal Cities

CHARTER AITC MEMBER

LARGEST
CERAMIC TILES

frostproof...for interiors, exteriors, floors, walls...in sizes up to 12" x 16"

. . . in 13 colors by Stylon. A new tile for new design ideas . . . a floor and wall surfacing that stands up under endless weather and wear with almost no maintenance. Large size means low installation cost. See your Stylon distributor or write Stylon Corporation, 1 Summer Street, Milford, Mass.

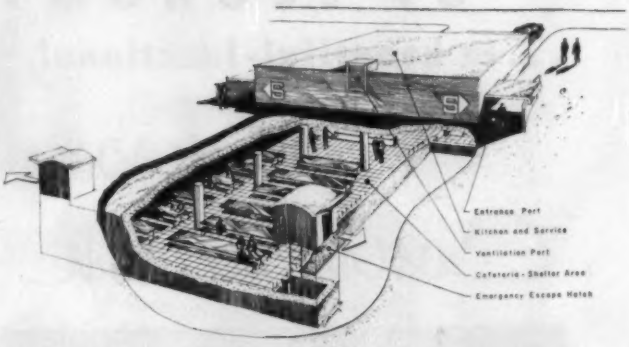
See our catalog in (S) Sweet's.

Stylon CERAMIC TILE

Plants in Milford, Mass. and Florence, Ala.

Member: Tile Council of America, Inc., and The Producers' Council, Inc.

Technical Roundup



Dual Purpose Structure Combines Nuclear Protection, Everyday Use

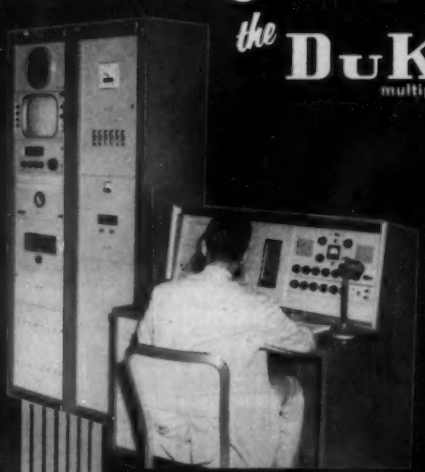
The need for specially designed personnel shelters for industrial plants has been widely accepted in the thirteen years since Hiroshima, but little has been done to move the idea off of drawing boards and into practice. However, designers at Walter Kidde Engineers-Southwest, Inc., were recently called upon to design a cafeteria and meeting space that would also protect plant personnel against a nuclear blast.

At the lower level, completely surrounded by a thick reinforced con-

6 in 1 all SIX basic electronic services in ONE conduit or raceway . . .

the DuKANE MCS SYSTEM

multipurpose communications and signaling



for schools installing all 6:

The DUKANE MCS system offers obvious advantages—one installation, one raceway, one supplier, a single responsibility for installation and maintenance.

for schools installing one or two:

The DUKANE MCS concept is especially important. DuKane engineers can, simply and inexpensively, set up your initial installation of, say, a central sound system and a clock and program system, so that later expansion to include other component services will be easy, accurate, and at minimum cost.

private dial telephone

The modern answer to internal communications is a private telephone system. Fully automatic dial operation allows any room to call any other without going through the office or using an operator, and conversations are quiet and private.

central sound system

For program distribution and announcements to all rooms or any selection of rooms. DuKane has installed more school sound systems than any other manufacturer! DuKane systems are custom-installed from mass-produced components, engineered to suit the requirements of any school, regardless of size.

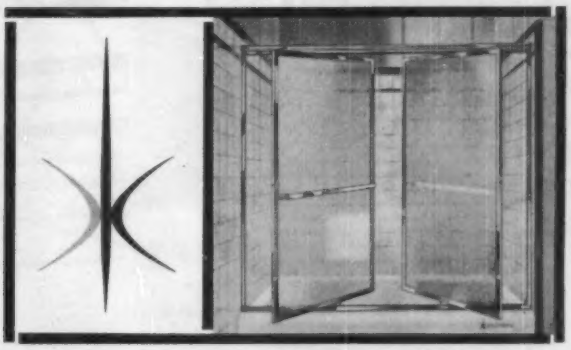
crete shell, is the shelter area, which includes mechanical and emergency power equipment, emergency water well and conventional and chemical toilets, as well as the dining and serving areas. The shelter area is entered by either of two concrete-enclosed stair towers. The entrance ports are protected from debris by concrete canopies and wing walls. Actual closure of the bomb shelter area occurs at the lower level, where a heavy blast-and-radiation-proof door can be rolled into position and secured by means of an inflatable gasket. Emergency escape hatches at the opposite end of the dining room provide an alternate means of exit.

The above-grade section of the structure contains the food preparation facilities, which require an extensive ventilation system and direct accessibility to delivery service, and are not suitable for accommodating large groups.

Special design features include a ventilating system which will provide for normal requirements as well as for cleansing or completely shutting off contaminated outside air; and provision for continuous instrument monitoring of the contamination level outside the shelter.

more roundup on page 266

KEYSTONE PIVOT-DOR TUB ENCLOSURE



A new concept in bathtub enclosure design —sliding panels swing open providing complete accessibility to the tub.

The picture tells the story: All the advantages of a tub enclosure—plus the freedom of movement permitted by an open tub. Result: safer and more convenient bathing for all—particularly the very young and very old. And simplified tub and enclosure cleaning: innerside of panels can easily be cleaned from outside the tub.

Outstanding construction features: Smooth, silent leakproof conventional sliding action. Easy opening of either or both doors in any position desired. Sizes for all standard tubs—custom sizes to specifications. Available in exclusively pressure-glazed highest quality extruded chrome-plated brass or aluminum frames. For further information, write.

KEYSTONE SHOWER DOOR COMPANY
FOUNDED 1932 • SOUTHAMPTON, PENNSYLVANIA

Representatives And Units On Display In Principal Cities U.S.A. • Montreal, Canada • Havana, Cuba

emergency voice warning

Bright red telephone handsets at critical points throughout the school automatically cut into the central sound system, overriding any other transmission, and activate every loudspeaker for emergency announcements, evacuation instructions, and panic control.

school-to-home intercom

Using a simple leased wire from the telephone company, the DuKane school-to-home unit keeps the confined student in the complete audio environment of his classroom. He can ask questions and participate fully in class discussions.

clock and program system

The DuKane clock system automatically keeps all classroom and corridor clocks in perfect synchronization with the master clock. Class-break signals are infinitely variable and simply changed or adjusted on one or several channels. Signals come through classroom and corridor loudspeakers, eliminating separate bells or buzzers.

educational television

Both off-the-air commercial, news, and educational programs, and internally-originated material is distributed to classroom TV receivers. As a first step, a simple off-the-air pickup and coaxial distribution cable is relatively inexpensive; later, studio facilities can be provided and a complete audio-visual teaching program instituted.

only from

DuKane

- all 6 basic systems
- any selection of systems

So flexible it literally defies obsolescence, the DuKane MCS concept heralds a new era in school communications and signalling. Your new school can provide for all 6 services for less investment than it might otherwise take for only three or four independent separately-installed systems.

By making proper provision now, the school which plans to install only one, two, or three of the basic systems, can make possible later addition of educational TV and other services without tearing up floors, breaking into walls, or installing new conduits.

DuKane's nationwide network of factory-trained engineering distributors stands ready to advise and help you. Your nearest DuKane distributor is listed in the Yellow Pages. Give him a call, or write for further information.

DuKane Corporation
Department AR-118, St. Charles, Illinois

Please send me more information on the DuKane MCS system.

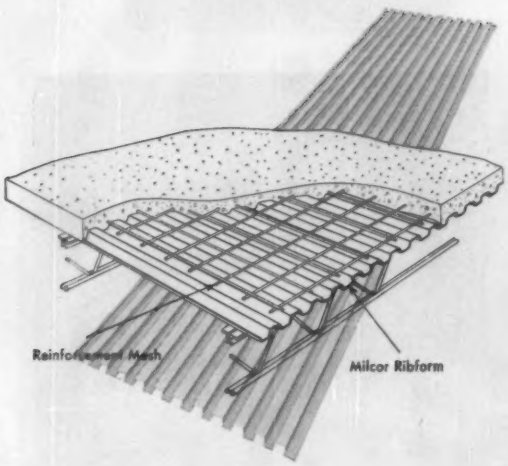
Name_____

Firm or Institution_____

Address_____

City & State_____

PLACE ON JOISTS
PLUG-WELD TO JOISTS
ROLL OUT MESH
POUR CONCRETE



Short-span concrete slabs cost less with Milcor Ribform

Ribbed, high-tensile steel form is stronger than ordinary corrugated patterns

Ribform is a permanent, rigid base for concrete floor and roof slabs over spans up to 5′-0″.

It goes down fast—is easy to install over pipe trenches or in other inaccessible locations where it is impractical and expensive to strip wood forms. Temporary bracing of joists is unnecessary. Scaffolding is eliminated.

Ribform uses as much as 20% less concrete than flexible types of centering. The slab is poured and finished in one operation. The rigidity of Ribform permits monolithic finishing — eliminates costly topping.

See Sweet's, section 2h/In — or write for catalog 245.

MILCOR® Ribform

It pays . . . in many ways . . . to specify Milcor Steel Building Products

MILCOR CELLUFLOR	MILCOR WALL PANELS	MILCOR ROOF DECK	MILCOR METAL TRIM	MILCOR CONVECTOR ENCLOSURE WALL UNITS
Sweet's, section 2a/In	Sweet's, section 3b/In	Sweet's, section 2f/InL	Sweet's, section 12b/In	Sweet's, section 30h/In

INLAND STEEL PRODUCTS COMPANY Member of the INLAND Steel Family

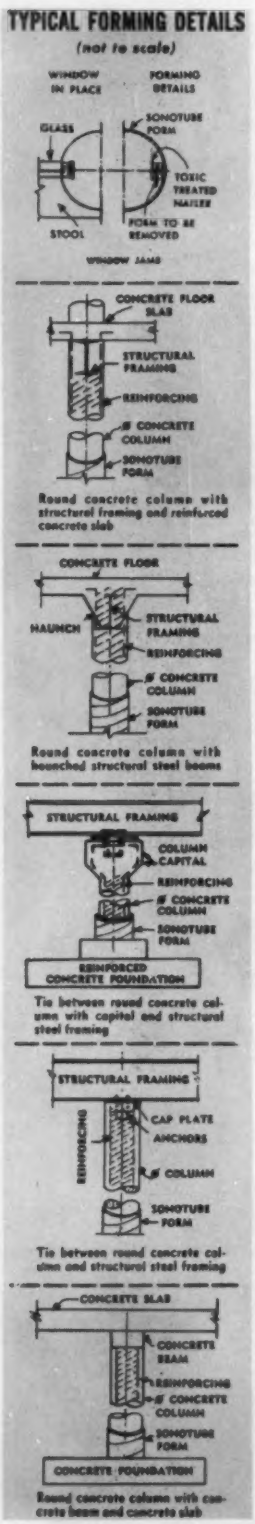
DEPT. D, 4069 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN

ATLANTA • BALTIMORE • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DENVER • DETROIT
KANSAS CITY • LOS ANGELES • MILWAUKEE • MINNEAPOLIS • NEW ORLEANS • NEW YORK • ST. LOUIS.

RD-15

for SCHOOLS... round concrete columns permit

VERSATILITY
in Design
ECONOMY
in Construction



Notre Dame School, Biloxi, Miss.
William R. Allen, Architect.
Photo by Joseph Molitor.

Seibert School Addition, Columbus, Ohio.
David Schackne, Jr., Architect. Mason, Reib & Sheit, Contractors.

Fort Sanders Elementary School, Knoxville, Tenn. Painter, Weeks & McCarty, Architects. Emory & Richards, Contractors.

Specify low-cost **SONOCO**

Sonotube®

FIBRE FORMS

for round columns of concrete

Nothing is more important in school construction today than economy . . . at the same time, architectural individuality is demanded. The way to satisfy both requirements is to incorporate round columns of concrete in your work, then specify forming with Sonoco Sonotube Fibre Forms.

Sonotube Fibre Forms provide the fastest and most economical method of forming round columns of concrete.

Contractors save time, labor, and money because these forms are low in cost, lightweight, easily handled and placed and require minimum bracing. Can be sawed on the job to specific lengths.

Sonotube Fibre Forms are available in sizes from 2" to 48" I.D. Standard shipping length is 18' unless otherwise specified. Specify "Seamless" (a premium form for finished columns) or "A" coated, the standard form for exposed columns.

For complete information and prices, write

- HARTSVILLE, S. C.
- LA PUENTE, CALIF.
- MONTCLAIR, N. J.
- AKRON, INDIANA
- LONGVIEW, TEXAS
- ATLANTA, GA.
- BRANTFORD, ONT.
- MEXICO, D.F.

3470

SONOCO
Construction Products
SONOCO PRODUCTS COMPANY

B.F.Goodrich

Fast, economical installation!

Get a fire-retardant roof fast! Here a Lexsuco mechanical applicator performs three operations on one pass—applies nonflammable Lexsuco Adhesive R907T to underside of Koroseal Vapor Barrier, lays and secures the Koroseal to the deck, and puts ribbons of adhesive on top of the Koroseal to secure insulation. Result: a fire-retardant, vapor resistant roof construction with a Factory Mutual Class 1 rating (highest).

Semi-mechanical method is fast for medium or small jobs. Apply ribbons of adhesive with the Lexsuco Spreader, spread ribbons with roller coater and unroll Koroseal into adhesive. Then, imbed insulation into ribbons of adhesive on top of Koroseal. Whether your roofing job is large or small, Lexsuco's engineered application methods cut installation costs.

B.F.Goodrich Koroseal Vapor Barrier is specially compounded fire-retardant vinyl material, provides maximum vapor protection. Will not feed a fire—there is no asphalt to give off flammable gases. Asphalt materials are replaced by Koroseal Vapor Barrier, made by *B.F.Goodrich Industrial Products Company, Marietta, Ohio.*

Mail this coupon for detailed information:

LEXSUCO INC
Dept. AR-11
Box 326, Solon, Ohio

Please send me informative folder on Lexsuco Fire-Retardant Roof Constructions.

Name_____

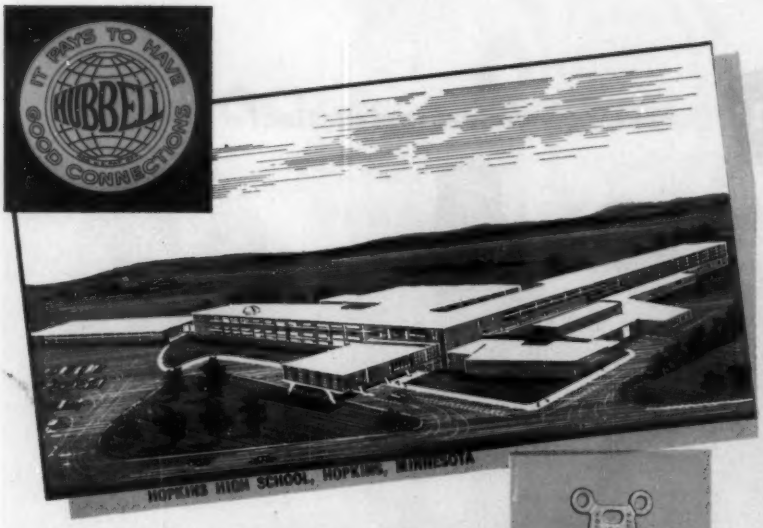
Company_____

Address_____

City_____ **Zone**_____ **State**_____

Koroseal—T. M. Reg. U. S. Pat. Off.

B.F.Goodrich *Koroseal vapor barrier*



Second impressions of a *Quality* school

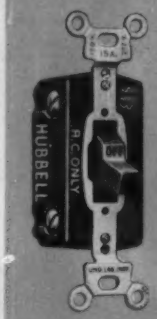
When this beautiful new Hopkins High School opens its doors this fall, few of the teachers or students will notice many of the construction details of the building. Their first impressions will probably be general ones relating to the overall structural design and arrangement of the school. Second impressions will come later when they've "lived" in the school for awhile. These second impressions will be based not on outward appearances but on the things that contribute most to their comfort, convenience and security.

There are hundreds of "built-in" structural components that contribute to this sense of well being at Hopkins, and Hubbell is proud that its wiring devices are included. Hubbell specification grade switches, receptacles and plates are installed exclusively throughout the Hopkins School. Like all other quality materials used, they were specified because of their safety, convenience and long-term dependability.

Yes, second impressions at Hopkins are sure to be good impressions and they will be lasting ones, too, because quality in anything is always a lasting ingredient.

Architect: Bissell and Belair
Electrical Contractor: Harris Bros.
Consulting Engineers: Orr-Schelen Co.
Hubbell Supplier: Graybar Electric Co.

(All firms are in Minneapolis.)



CAT. NO. 1201
Specification Grade
AC "Topper" Switch
15 amps., 120-277 volts

CAT. NO. 5262
Grounding-type
Convenience Outlet
15 amps., 125 volts

HARVEY HUBBELL, INC.
HIGHEST QUALITY
WIRING DEVICES • MACHINE SCREWS
BRIDGEPORT 2, CONNECTICUT

WIRING DEVICE OFFICE AND WAREHOUSE LOCATIONS

Bridgeport 2, Connecticut
State and Bostwick Streets

Chicago 7, Illinois
37 South Sangamon Street

Los Angeles 12, California
103 North Santa Fe Avenue

San Francisco, California
1675 Hudson Avenue

IN CANADA:
Scarborough, Ontario, Can.
1160 Birchmount Road

Technical Roundup

Beauty Contest for Bridges

Fourteen bridges from a field of 81 were selected as the most beautiful opened to traffic in 1957 in the AISC's 30th Annual Aesthetic Bridge Competition. The jury, which lauded the simplicity of design of all the bridges submitted, was composed of three architects, a consulting engineer and the director of a decorative arts museum. Top winners are pictured below.

CLASS I, Spans over 400 feet: Walt Whitman Bridge, Philadelphia, Pa.; designers: Modjeski and Masters and Ammann & Whitney

CLASS II, Spans over 400 ft; cost over $500,000: General James Longstreet Memorial Bridge, Gainesville, Ga.; designer: Patchen and Zimmerman

CLASS III, Spans under 400 ft, cost under $500,000: Hampton Road Overpass, Dallas, Texas; designer: Powell & Powell

CLASS IV, Movable spans: Madison-Monroe Street Bridge, Two Rivers, Wisc.; designer: Hazelet & Erdal

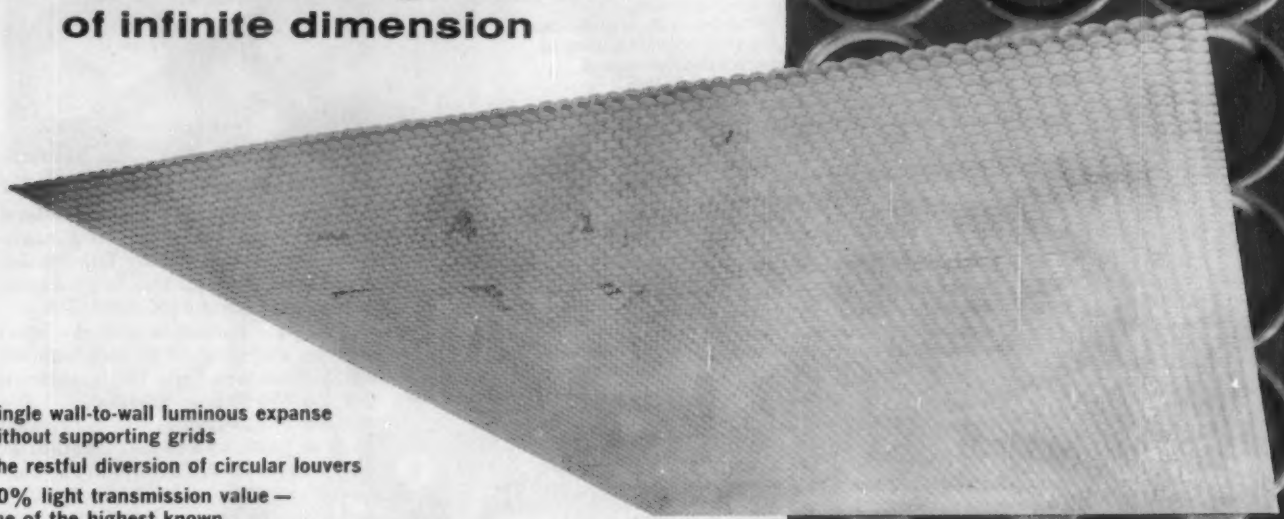
more roundup on page 268

introducing–

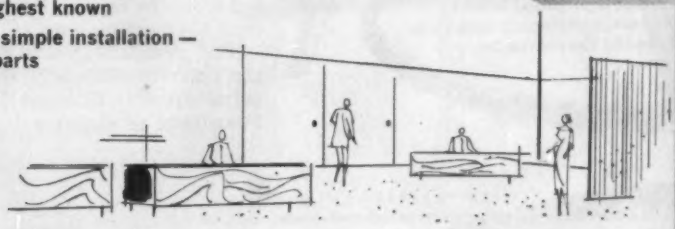
a true non-modular suspended ceiling

INFINILITE–

the new luminous grillework of infinite dimension



- Single wall-to-wall luminous expanse without supporting grids
- The restful diversion of circular louvers
- 80% light transmission value — one of the highest known
- Astoundingly simple installation — only 4 basic parts



INFINILITE WAS DEVISED as the only feasible architectural lighting solution for irregularly shaped ceiling areas. Today INFINILITE is installed in many of America's foremost new buildings. 24 x 25 inch interlocking panels snap on with no over-lapping double edges or seams.

INFINILITE is manufactured from new light stabilized plastic. Specially designed Drop-Strip Fixture with V.T.S. Diffuser is first to completely eliminate direct view of lamps through grillework. We invite your inquiry.

INFINILITE*

A product of INTEGRATED CEILINGS, INC.

* PAT. PENDING – T.M.

9011 Beverly Boulevard • Los Angeles 48, California

INTEGRATED CEILINGS, INC. AR
9011 Beverly Boulevard
Los Angeles 48, California

Please send me free Infinilite brochure

NAME_____

FIRM_____

STREET_____

CITY_____ ZONE_____

Executone gives you **4-way service** for sound and intercom systems!

We provide not only wiring plans, shop drawings, specifications and costs, but with our nation-wide organization of exclusive distributors we also give your clients on-premise maintenance of equipment and instruct their personnel in its proper use. If you have a job on your boards that should utilize intercom or sound, you should be familiar with these four important Executone services;

Not only this...

1 Consultation Service
Executone's Field Engineers will assist you in determining your clients' communication needs... recommend the system designed for the job... provide you with a professional consultation service.

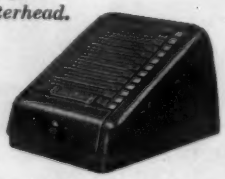
2 Installation and Supervision
Each local Executone distributor is prepared to take full responsibility for the final and satisfactory operation of the system, whether installed by the contractor, or his own factory-trained crew.

But also this!

3 On-Premise Maintenance
Each local distributor is staffed with skilled, factory-trained technicians. They also have complete stocks of standard replacement parts. Continuous, uninterrupted performance of every Executone system is assured.

4 Personnel Instruction
Local Executone representatives instruct your clients' personnel in the proper use of Executone Systems. This planned program assures maximum benefits through proper operation and utilization of their systems.

Architects and engineers are invited to send for Executone's 325 page Reference Manual "S-17" No charge or obligation. Please use your letterhead.



Executone
INTERCOM AND SOUND SYSTEMS FOR HOSPITALS, SCHOOLS, HOMES, PLANTS, OFFICES
415 Lexington Ave., New York 17, N.Y. • In Canada...331 Bartlett Ave., Toronto

Technical Roundup

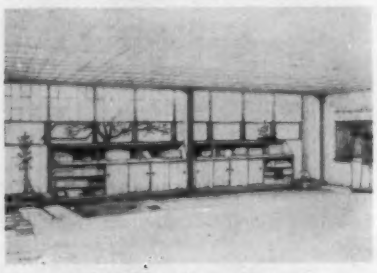
Steel Horseshoes Frame Grandstand

Stockton, California's new three-level racing grandstand features a cantilever roof supported by huge fabricated steel plate girders to give spectators an unobstructed view.

Fifteen horseshoe-shaped steel frames, standing 65 ft high and set on 25 ft centers, form the framework for the 350 ft long pavilion.

Each of the frames was fabricated in four parts and bolted together at the job site before erection. The cantilever sections extend about 60 ft out from the back wall to form a roof over the seating area.

The grandstand was designed by the California State Division of Architecture with Edwin A. Verner, San Francisco, as structural engineer.

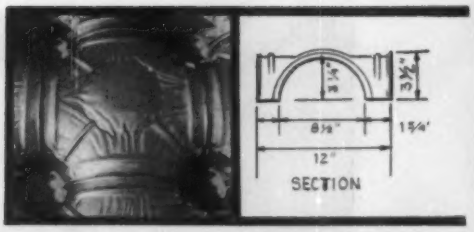


Plastic Wall for Conn. School

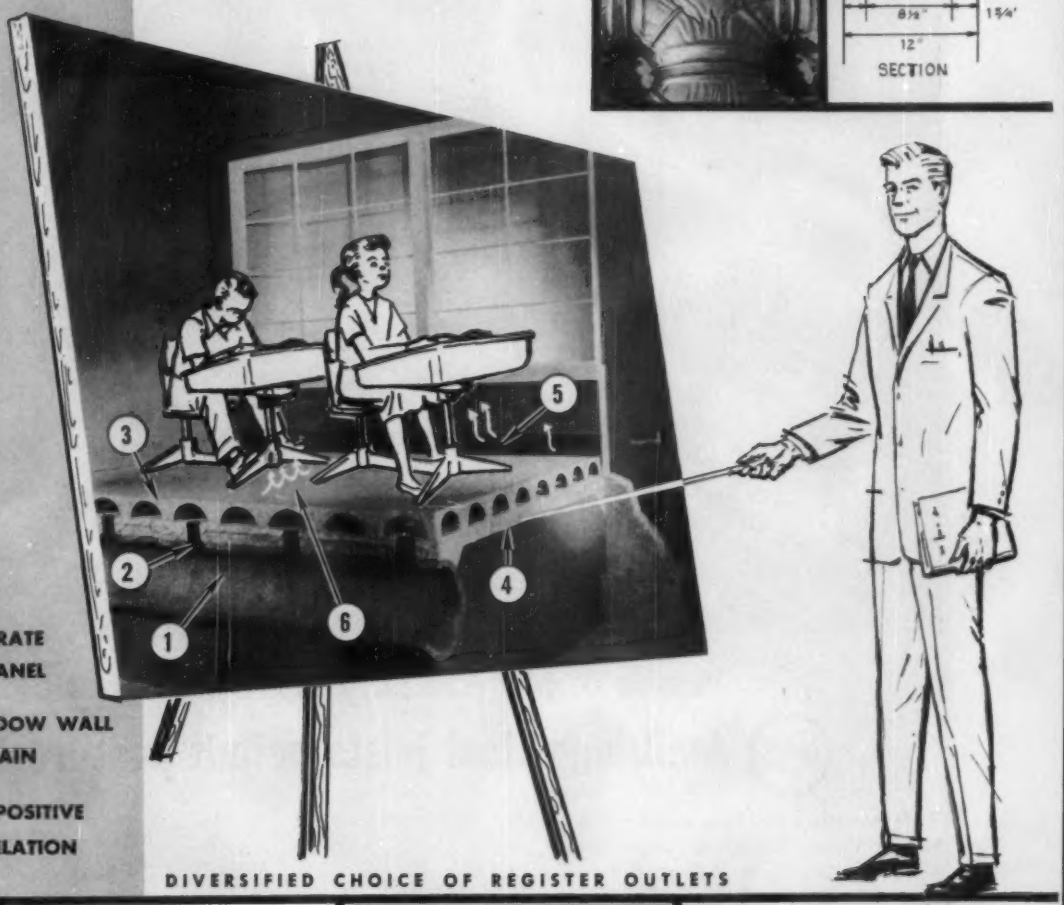
With the exception of narrow horizontal "vision strips" and porcelain enamel spandrels, the curtain wall for a new $4 million high school in Stamford, Connecticut, will consist entirely of translucent sandwich panels. The panels, which are made up of rigid sheets of plastic laminated to a metal grid core, are expected to give better light control and less heat loss than similar areas of glass. According to architects Urbahn, Brayton & Burrows of New York City, their low cost and ease of maintenance make them particularly suitable for school use. Cabinets will be built against the opaque spandrels so that the exposed portions of the wall are almost wholly translucent.

THE NATURAL THERMAL

Environment For Education

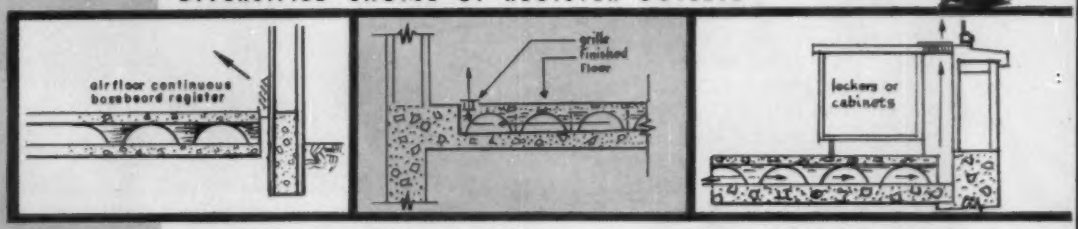


1. UNDERGROUND AIR SUPPLY
2. AIR FLOW THROUGH FLOOR
3. 1½" CONCRETE OVER FORMS
4. 2" SCREEDED PAD
5. AIR OUTLET
6. RADIATION THROUGH FLOOR



- PERMANENT TEMPERATE RADIANT FLOOR PANEL
- CONTINUOUS WINDOW WALL CONVECTION CURTAIN
- DRAFTLESS SILENT POSITIVE MECHANICAL VENTILATION

DIVERSIFIED CHOICE OF REGISTER OUTLETS



AT NO EXTRA COST

YOU CAN PERMANENTLY INTEGRATE WARM AIR RADIANT HEATING AND RADIANT COOLING WITHIN THE ACTUAL BUILDING STRUCTURE.

When cooling through an AIRFLOOR, the floor itself does approximately 50% of the cooling while 50% is convected through the perimeter register. The floor temperatures will vary between 66°F and 71°F while the discharge from the registers will also be in the same temperature range. On the heating cycle, the floor temperature will be between 70°F and 74°F in temperate climates, and between 70°F and 80°F in colder climates. The air temperature from the registers will range between 68°F and 85°F. With these moderate operating temperatures stratification and drafts are virtually non-existent and response to temperature change is excellent.

WRITE NOW FOR NEW FULLY ILLUSTRATED SCHOOL BROCHURE

AIRFLOOR

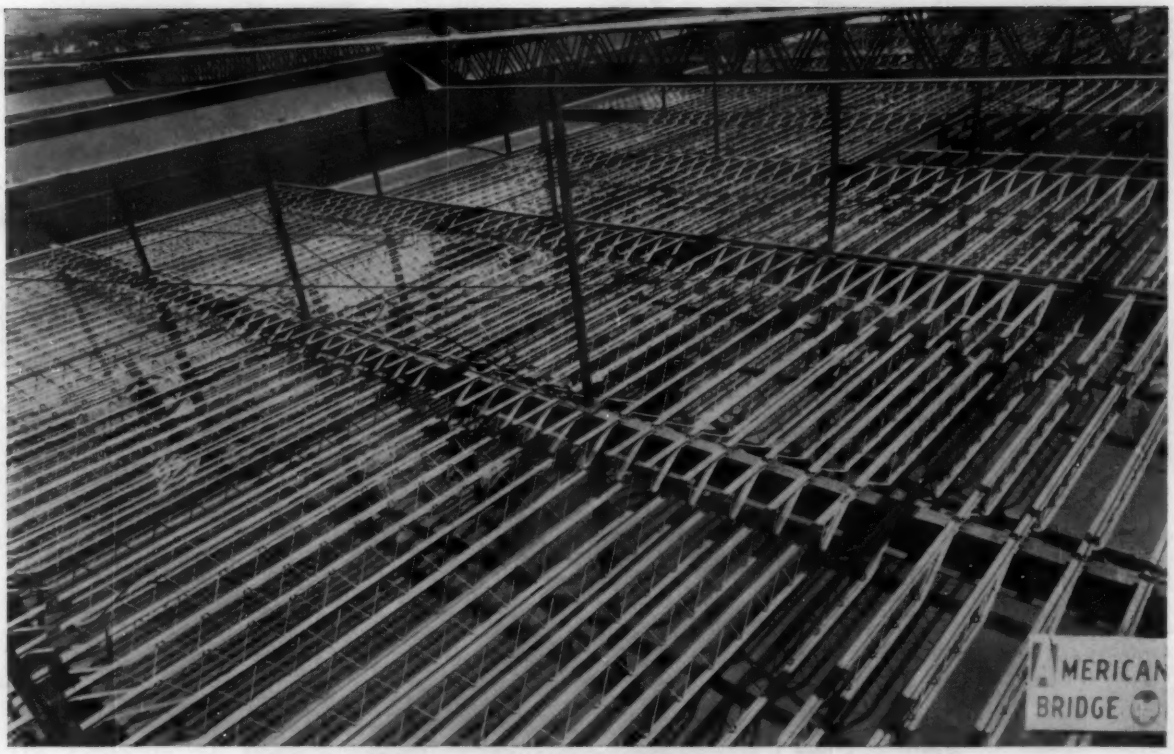
COMPANY OF CALIFORNIA, INC.

13729 EAST ROSECRANS AVENUE • UNIVERSITY 3-5735 • NORWALK, CALIFORNIA

OFFICES IN NEW YORK, CHICAGO, SAN FRANCISCO, VISALIA, AND SACRAMENTO, CALIFORNIA

REPRESENTATIVES IN CAMBRIDGE, MASS.; PHOENIX, ARIZ.; BALTIMORE, MARYLAND; BUFFALO, N. Y.; DETROIT, MICH.; AND WEST HARTFORD, CONN.

CONSULT YOUR ARCHITECT OR ENGINEER



In one of Montgomery Ward's newest stores

USS AmBridge steel joists permit post-free floors

This two-story building, an addition to the Village Shopping Center in Gary, Indiana, will soon house Montgomery Ward & Company's newest store. The store will provide 122,965 square feet of merchandising space and will employ 250 people. **The builders of this store,** the Superior Construction Company, of Gary, are using 240 tons of USS AmBridge Longspan Steel Joists and USS AmBridge Standard Steel Joists for floor and roof construction. Longspan Joists permit post-free floors... allow the maximum in open-floor area for sales displays.

USS AmBridge Standard Steel Joists provide rigid, lightweight, economical construction, suitable for any type of floor, roof, or ceiling. Their underslung, open-web design allows free passage of pipes, ducts, and conduits in any direction. The ease of handling these joists cuts installation time and permits other trades to start work quickly. American Bridge also supplied the structural steel for this job.

Montgomery Ward Retail Store, Gary, Indiana; Owner: Village Shopping Center, Inc.; Designer: Frederic W. Collins, A.I.A.

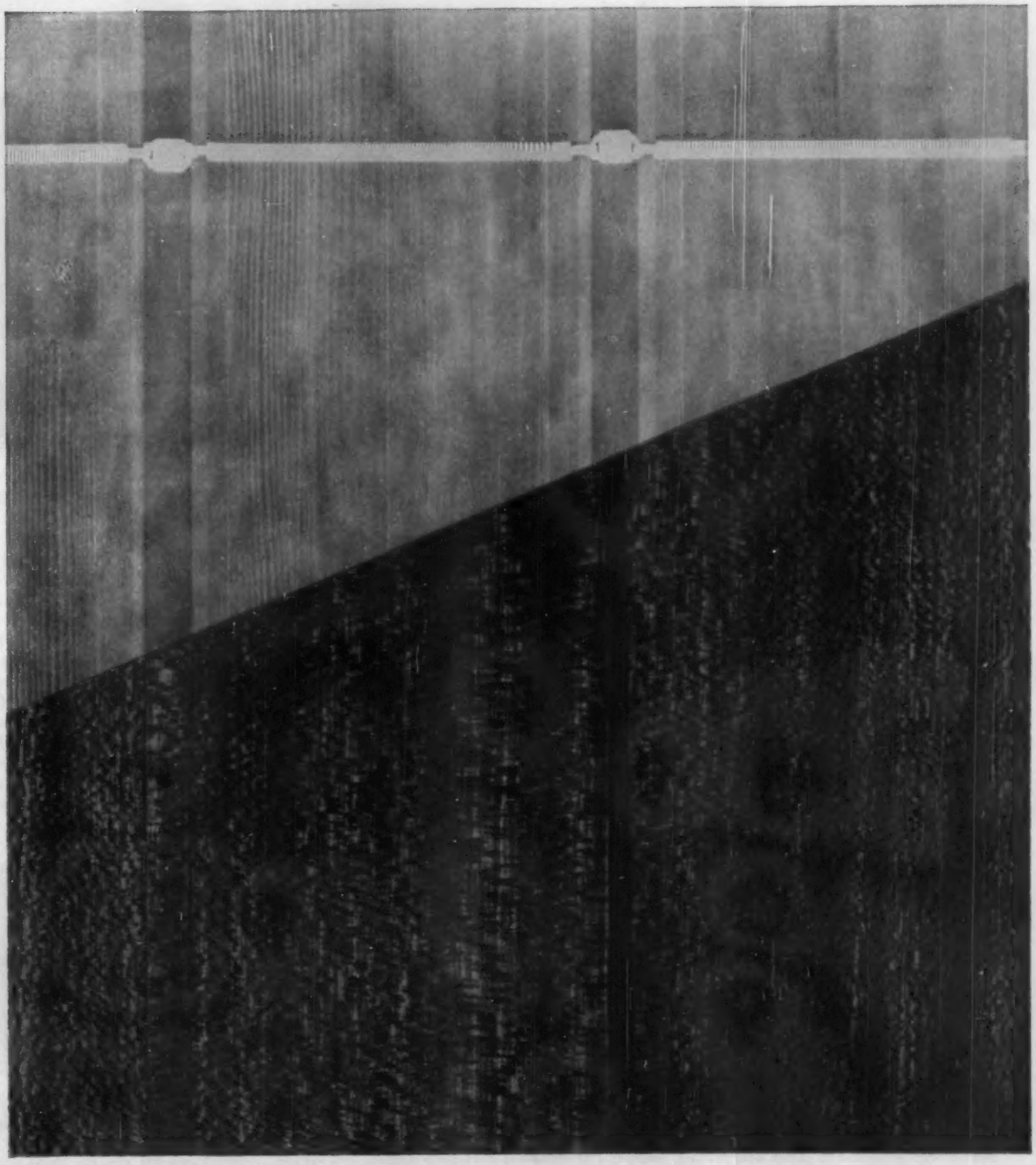
FREE BOOK—To get full details on all USS AmBridge Steel Joists, send for our free catalog. This 40-page catalog contains complete design information for spans up to 120 feet. Write to American Bridge Division, United States Steel Corporation, 525 William Penn Place, Pittsburgh, Pa. Or contact our nearest contracting office.

USS and AmBridge are registered trademarks

American Bridge Division of USS United States Steel

STEEL JOIST INSTITUTE MEMBER SJI

General Offices: 525 William Penn Place, Pittsburgh, Pa. Contracting Offices in: Ambridge • Atlanta • Baltimore • Birmingham • Boston • Chicago • Cincinnati Cleveland • Dallas • Denver • Detroit • Elmira • Gary • Houston • Los Angeles • Memphis • Minneapolis • New York • Orange, Texas • Philadelphia Pittsburgh • Portland, Ore. • Roanoke • St. Louis • San Francisco • Trenton • United States Steel Export Company, New York



Pella®

X-RAY REVEALS SPRING HINGES

Each extending the width of one panel, individual alloy steel spring hinges keep panels of the PELLA WOOD FOLDING DOOR uniformly spaced in all positions—give the door a "live" action. "Lamicor" construction preserves alignment, prevents warping. Full specifications in SWEET'S. Distributors throughout United States and Canada—see classified telephone directory for the one nearest you.

WOOD FOLDING DOORS

SEND COUPON TODAY

ROLSCREEN COMPANY, Dept. J-128, Pella, Iowa

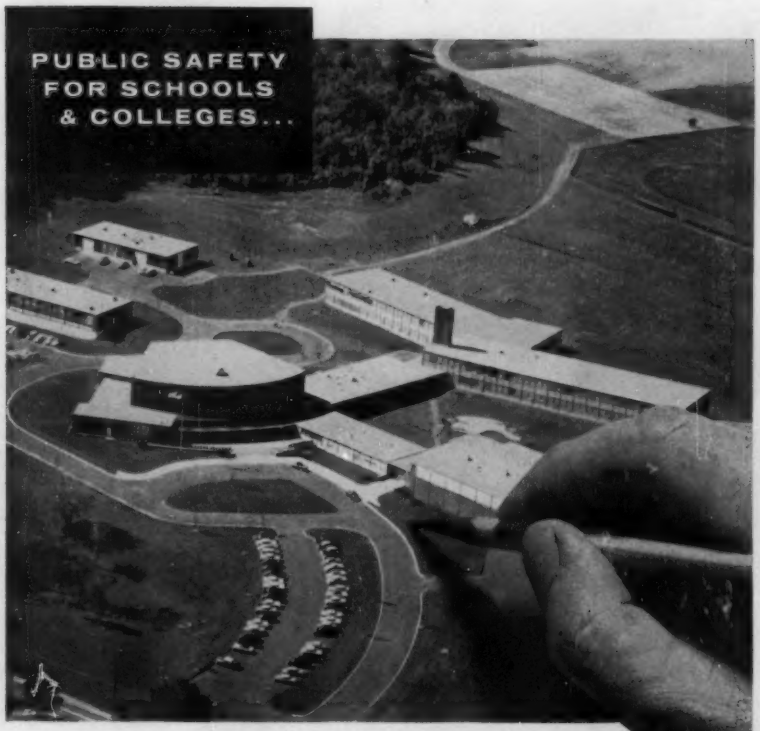
Please send literature on
PELLA WOOD FOLDING DOORS.

NAME

FIRM

ADDRESS

CITY ZONE STATE



PROVIDE MAXIMUM PROTECTION AGAINST FIRE with GAMEWELL FLEXALARM!

Schools and Colleges, like all public buildings, have special requirements for fire alarm systems and fire defense.

No combination or "catch-all" system can really give adequate protection! Maximum fire alarm coverage must provide 24-hour protection, be properly zoned, and engineered to life hazard and fire defense plans.

Flexalarm is the modern, all-in-one fire alarm system that can be precisely tailored to your building and its requirements. It features building-block design and unit type components for simplicity in satisfying all types of construction, fire codes and life hazards. It is easy to specify and economical to buy because of extensive pre-engineering and simplified unit-by-unit installation. Saves money all down the line . . . all from one source, one line of equipment — with complete engineering help if needed.

Send for New Flexalarm Manual. Clients and customers expect the best in fire alarm protection. This specialized, easy-to-use Manual will help you give them maximum protection against fire. Send for your copy, today.

Ask for catalog F249.

Gamewell Fire Alarm Systems For All Types of Life Hazards and Fire Defense Plans
Flexalarm
Dualarm
Localarm
Sprinkler Watchman
Master Box
Direct Municipal Connections

THE GAMEWELL COMPANY
Dept. BB, Newton Upper Falls 64, Mass.

GAMEWELL

SPECIALISTS IN PUBLIC SAFETY

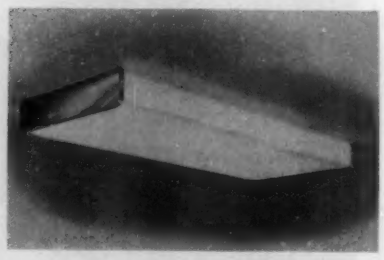
GA 8-11

Product Reports

continued from page 244

Fiberglass Roof Exhauster

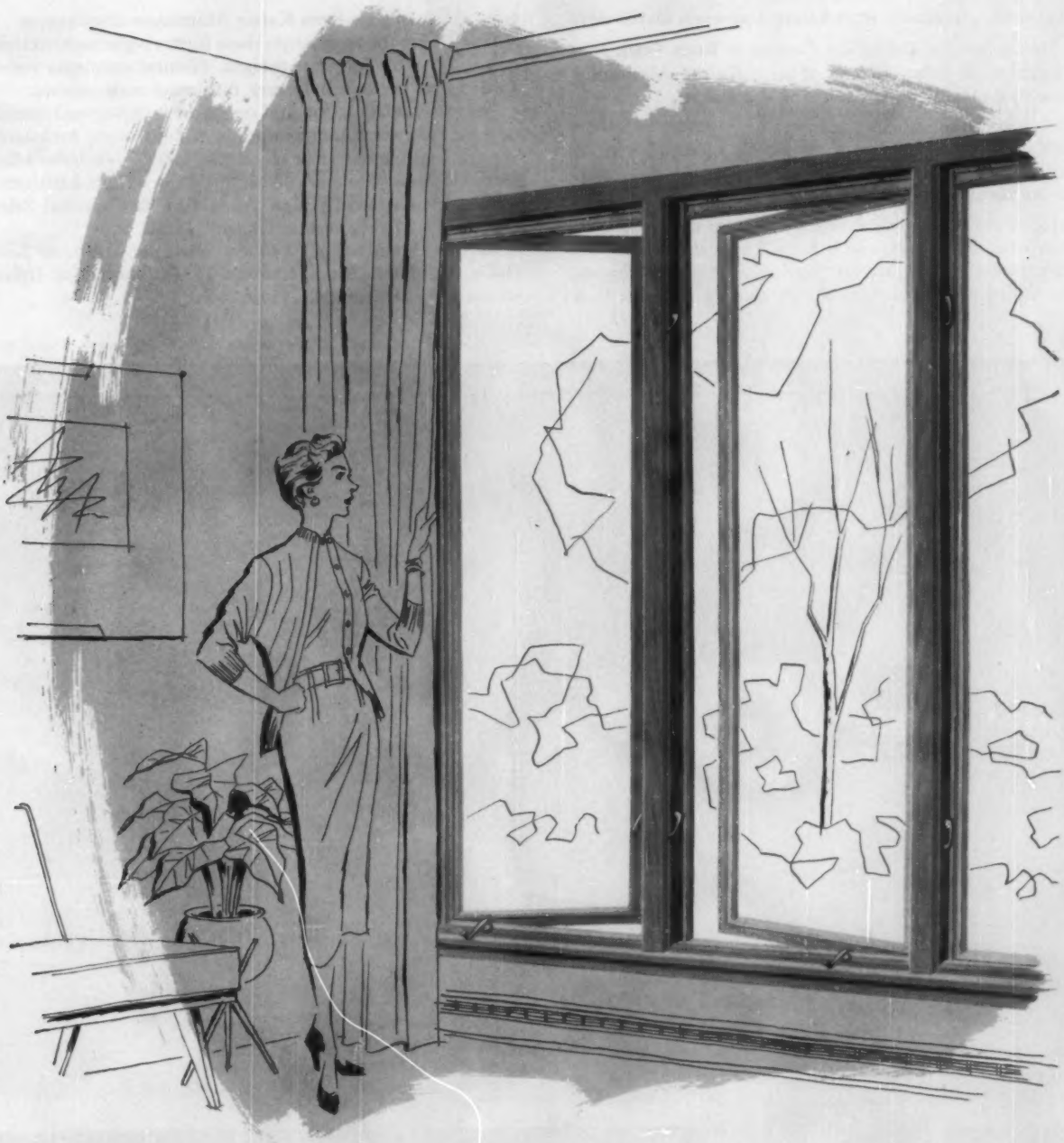
The advantages over similar metal units of a power roof exhauster molded in reinforced *Fiberglas* are said to include inherent quietness (units are self-damping), high structural and impact strength, integral maintenance-free finish, and corrosion resistance. In addition, its light weight means economy in both shipping and installation. The units come in capacities ranging from 100 to 11,000 cfm, with static pressures up to 4 in. They are furnished in standard light blue, but can be had in any color on special order. Prices are competitive with aluminum and steel. *The Gallaher Co., Omaha, Nebr.*



Wrap-Around Light Diffuser

The new *Venus* 4700 Series of fluorescent lighting fixtures features a wrap-around acrylic plastic light diffuser to provide shadow-free lighting. Internal ribbing eliminates the common center dark streak, and a translucent joiner band permits end to end assembly without visible connections. Installation brackets at the top give enough ceiling clearance for adequate ventilation and heat dissipation. Two and four lamp models are available for both the standard 48 in. tubes and the 96 in. slimlines. *Sun-Lite Mfg. Co., 2555 Bellevue Ave., Detroit 7, Mich.*

more products on page 276



LARGEST STOCK SIZE WOOD CASEMENT

Pella®

Now . . . here is *high style* in wood casements. These new PELLA CASEMENTS with 24" x 68" glass adapt perfectly to standard height walls. Plenty of room below for perimeter heating. Pleasing proportions above for ceiling-to-floor draperies. And, they trim out to standard doorway height. ROLSCREEN equipped. Insulating glass. See our catalog in Sweet's or mail coupon today. Distributors throughout U. S. and Canada. Consult classified telephone directory.

WOOD CASEMENT WINDOWS

ROLSCREEN COMPANY,
Dept. J-125, Pella, Iowa

Please send data on PELLA CASEMENT WINDOWS.

FIRM

ADDRESS

CITY ZONE STATE

ATT. MR. TEL. NO.

NEW ARCHITECTURAL ALUMINUM EXTRUSIONS FOR CONTEMPORARY DESIGNS

. . . now readily available from Kaiser Aluminum distributors

This Metals Service Center for Copper & Brass Sales, Inc. demonstrates an effective use of new Kaiser Aluminum architectural extrusions in contemporary design.

In addition to the gravel stop, facing system and window sill used on this project, Kaiser Aluminum offers a complete line of extrusion products engineered for the functional requirements of today's architecture.

Included in the line are a variety of gravel stops, copings, window sills, thresholds, and handrails as well as fascia expanders, fascia system, architectural and structural shapes, rod, bar, pipe and tube. All are now readily available in a wide range of sizes from Kaiser Aluminum distributors.

Investigate the advantages these lightweight architectural extrusions offer for your designs. Natural corrosion resistance assures permanent beauty, minimum maintenance.

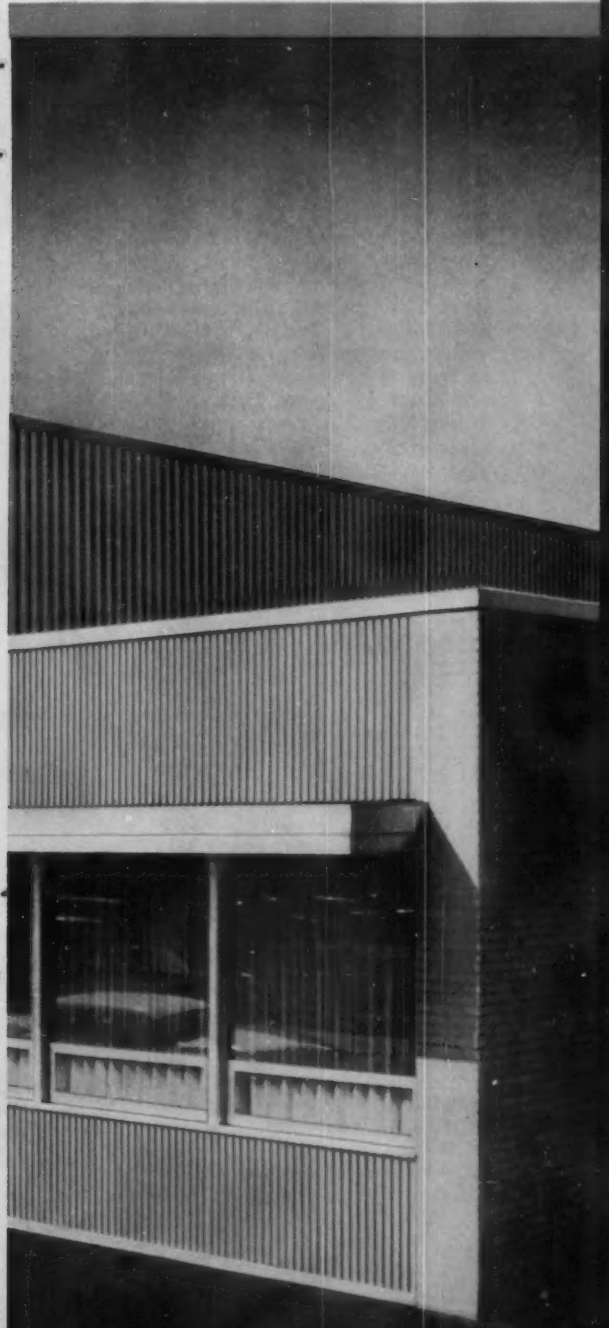
For more information and complete architectural specifications on any or all of these products, contact the Architect's Service Representative at the Kaiser Aluminum sales office listed in your telephone directory. Or write: Architect's Service Department, Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago 11, Ill.

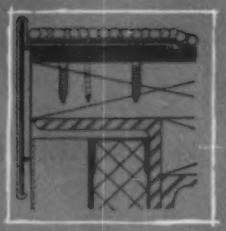
Kaiser Aluminum & Chemical Sales, Inc., *General Sales Office,* Palmolive Bldg., Chicago 11, Ill.; *Executive Office,* Kaiser Bldg., Oakland 12, Calif.

KAISER ALUMINUM

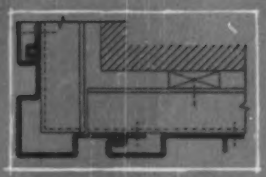
What the architect conceives ... aluminum achieves!

See "MAVERICK" • Sunday Evenings, ABC-TV Network • Consult your local TV listing



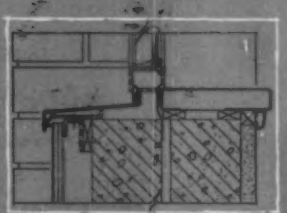


Typical detail and photo of Kaiser Aluminum's Type K-1 Gravel Stop. Note simplicity and pleasing shadow line that results from the straight drip edge feature.



Kaiser Aluminum's standard Facing System may be used for interior or exterior applications. Typical detail shows outside corner components in horizontal section. Photo shows pleasing texture effect of the configuration.

The straight drip edge feature of Kaiser Aluminum's Type K-1 Window Sill is shown in typical detail and photo. As in the Type K-1 Gravel Stop, this feature contributes to the structure's contemporary design. Standard sill widths range from 2½" up to 8¼" plus ⅜" drip overhang.



ENGINEERS AND ARCHITECTS: Giffels & Vallet, Inc., L. Rossetti

CURTAIN WALL FABRICATOR-ERECTOR: The R. C. Mahon Co.

GENERAL CONTRACTOR: Perron Construction Co.

Copper & Brass Sales, Inc. (Kaiser Aluminum Distributor), Detroit, Michigan

WORM AND GEAR DESIGN ELIMINATES LOAD BRAKE ADJUSTMENT AND MAINTENANCE IN THIS

CONCO

OVERHEAD ELECTRIC CRANE

CONCO "CRB" OVERHEAD ELECTRIC TRAVELING CRANE installed in municipal sewage disposal plant.

A feature of this Conco "CR" series crane is a worm and gear mechanical load brake which provides maximum safety, lower first cost, and the elimination of any adjustment or service needs. The brake offers a virtually limitless service life. It has only 2 moving parts. Conco "CR" cranes are one of many types custom-built for all classes of service. To engineers Conco offers two important facilities: A plant flexibility that permits true custom-building at a practical cost. And, a staff qualified by 50 years experience to provide such design assistance as you may request. May we submit specification data, an estimate, or a proposal on your next crane requirement? Write for Bulletin 5000A.

APPLICATION NOTE: Conco has engineered special spark-proof and explosion-proof cranes for installations such as Naval Ammunition Depots, U. S. Air Force Bases, the U. S. Atomic Energy Commission, and Thiokol.

CRANES HOISTS CONCO

CONCO ENGINEERING WORKS

Division H. D. Conkey & Company
Mendota, Illinois

Affiliate: Conco Building Products, Inc.—Brick, Tile, Stone

See Our Catalog: Sweet's Industrial Construction File

Product Reports

Pre-Engineered Hollow Metal Units

To save time in delivery and installation, Superior Fireproof Door & Sash Co. has supplemented its line of custom hollow metal products with a new *Standardline* of doors, frames, borrowed light and sidelight partitions. The standard units feature the same precision engineering as the custom products, offer a wide variety of opening heights and widths, and can be quickly joined with an interlocking clip. The frames take either glass or solid vitreous and vinylclad steel panels. *Superior Standard-line Corp., 4175 Park Ave., New York 57, N. Y.*

Indoor Telephone Booths

The growing practice of installing telephone booths in public areas of buildings is aided and abetted by a new line of steel indoor booths in acoustic or see-thru models for free-standing or recessed installation, singly or in multiples. The fireproof booths are available in stainless steel or in color combinations to match or blend with their surroundings. *Sherron Metallic Corp., 1201 Flushing Ave., Brooklyn 37, N. Y.*

more products on page 282

Special activities unit, Westmoor High School, Daly City, Calif., houses gymnasium, auditorium, cafeteria, music room. Architects: Mario J. Ciampi, A.I.A.; Allyn C. Martin, Paul Reiter, associates.

L·O·F visits a high school...

a Seaside Showplace built on a budget

(Less than $15.00 per sq. ft. despite demands of a stormy site)*

It sits on a California hilltop only a half mile from the sea. From its windows you look down at San Francisco and the Pacific . . . but the building is as breathtaking as the view it commands!

The school's sparkling glass and vivid colors make it as lively as the youngsters who occupy it. And there are wonderful surprises . . . like landscaped courts and window walls everywhere.

Rain, fog and wind swirl around the hilltop site much of the school year. To thwart the elements, Architect Mario J. Ciampi

**excluding site work, special equipment, furnishings and fees*

L·O·F GLASS

Daylighted perimeter hallways surround the classroom unit. L·O·F Heat Absorbing Plate Glass is used for relief from solar heat and sun glare.

Inner mall which separates the special activities unit from the classroom unit has glass walls at both ends to serve as "wind shields" for the protection of those within.

designed a structure enclosing all units around a central mall. This is sheltered from buffeting winds by glass "fences" on either end. Classrooms are in one unit, and special activities areas are in another. Glass-walled perimeter hallways relieve the compactness, affording students a refreshing view.

Do students like it here? Many have gone out of their way to thank Mr. Ciampi. They're proud of the world-wide renown the building has earned.

Architects have come from as far away as Austria and Japan to study and admire this school. Mr. Ciampi told us why:

"Westmoor is visual evidence that our original design philosophy was correct. It is a large school, designed to accommodate 1,500 students, yet the building never dominates. The proportions—human figures to structure—are pleasing. And the community paid no more for this unusual design concept.

"Westmoor costs are comparable to secondary school cost standards for this area—and I mean austere standards. The California State Aid School Program is a stringent law which requires school buildings to be built at very minimum of cost.

"This same design economy applies to the second increment, now in its early stages—consisting of additional classrooms, science labs and shops. These additions will be constructed within the State Aid Program."

Cafeteria (viewed here from an inner court) has window walls of L·O·F Heat Absorbing Plate Glass for reduction of sun heat and glare.

The library also opens onto an inner court. Notice the freedom from distortion in the objects seen through the plate glass walls.

EDWARD D. MORGAN
Superintendent
Jefferson Union
High School District

The huge window walls in the gymnasium are *Tuf-flex*® tempered plate glass. They flood the big gym with daylight. This glass is tempered for greater safety and lower maintenance.

We wanted Superintendent Morgan's opinion. He told us:

"I definitely feel that Westmoor is a school which in practice is every bit up to its plan. In spite of its exposed hilltop position, it is a most welcome place. The kids love it.

"The community was slow to accept this design, citing the extensive use of glass as impractical for a school located on the San Andreas fault. Then came the big earthquake of March 1957. Not a pane was broken. That allayed their fears."

Principal South also had some interesting comments:

"The central grouping, as well as the many other design factors, serves a dual purpose: it creates a refreshing atmosphere for the student, while protecting the school and its activities from the extreme weather conditions prevalent in the area.

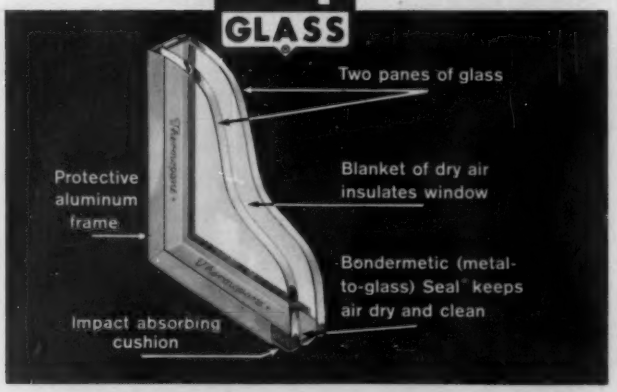
"There's a noticeable change in student attitude. Just as a family receives a mental lift by moving from an old home to a new one, Westmoor students have experienced a similar lift in spirits."

GLEN SOUTH
Principal
Westmoor High School

L·O·F GLASS

a Great Name in glass

LIBBEY·OWENS·FORD GLASS CO.


Two panes of glass
Protective aluminum frame
Blanket of dry air insulates window
Bondermetic (metal-to-glass) Seal keeps air dry and clean
Impact absorbing cushion

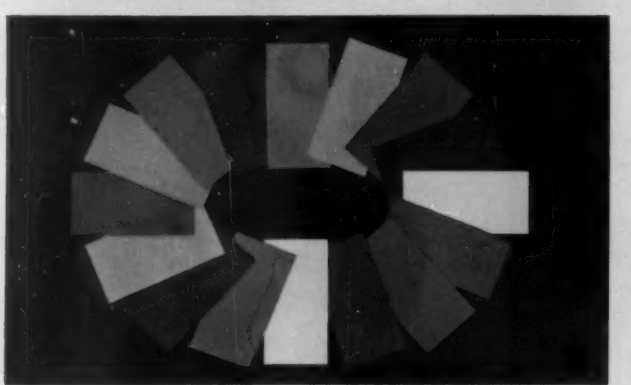
THERMOPANE®

Thermopane insulating glass puts two panes of glass and a sealed-in blanket of dry, clean air between the children and the outdoors. Drafts are reduced so rooms are more comfortable, especially for children sitting close to windows. *Thermopane* deadens outside noises. Compared to single panes, 1″ *Thermopane* cuts heat loss almost in half. Recommended for all windows where its insulating properties would result in substantial savings in winter.

Thermopane is now available in two new, improved types: New Super *Thermopane* (left, above) with the famous *Bondermetic* (metal-to-glass) *Seal*® now has its edges protected with an aluminum frame. *GlasSeal*® *Thermopane* (left) sets new quality standards for all-glass insulating units. Made of DSA sheet glass, its uniformly rounded, smooth edges make glazing easier and faster. Ideal for both wood and metal sash.

TUF-FLEX®

Tuf-flex tempered plate glass is 3 to 5 times stronger than regular plate glass of the same thickness. Yet it's as clear as any fine plate glass. If maximum resistance is reached, *Tuf-flex* disintegrates into relatively harmless, rock-salt-size particles. Recommended for gymnasiums, entrance doors and side lights, areas facing playgrounds . . . any area where youngsters and missiles are in rapid motion.



VITROLUX®

Used instead of masonry as an exterior facing material, also for interior partitions. Rich color, fused to the back of this clear, heat-strengthened plate glass, adds youthful beauty and cheerful character to your school. Natural resistance to weathering, crazing and checking. Standard maximum size of *Vitrolux* panels is 48″ x 84″. Special orders up to 60″ x 84″. Thickness: ¼″ plus 1/64″ minus 1/32″. Sixteen standard colors plus black and white. Also in nonstandard colors subject to manufacturing limitations.

For complete information on any of these L·O·F products, call your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.

LIBBEY·OWENS·FORD
608 Madison Avenue
TOLEDO 3, OHIO

AP-807

Litho in U.S.A.

"Low cost **OASIS IN-A-WALLS** the complete solution to cooled water"

Ultra-modern new Howard Building in Providence, R. I., has built-in Oasis In-A-Wall Water Coolers. Architect—Albert Harkness & Peter Geddes, Providence.

The Howard Realty Company, of Providence, R. I., is unusually enthusiastic over the super-compact efficiency of the Oasis In-A-Wall Water Coolers in its new 10-story Howard Building. The owner says,

"We're greatly pleased with the low cost, the ease of installation, and the clean-cut modern look of our ten Oasis In-A-Wall Water Coolers. Everyone concerned feels that they are the complete solution to our problem of providing ample cooled water for each floor."

Versatile Oasis In-A-Wall Water Coolers are easy to mount on joists, in closets, or on a wall. They're built thin to build in—even in an 8-inch wall. In-A-Wall coolers can serve up to four remote fountains with cool, refreshing water.

Specify either of two models. IW-5 supplies 5 GPH for two remote fountains, serves 60 in offices, 35 in light industry. IW-10 has 10 GPH capacity for four remote fountains, serves 120 people in offices, 70 in light industry.

For every building need, there's an Oasis Water Cooler. Line includes models with capacities from 2 to 35 GPH, some with refrigerated compartments, and the famous Hot 'n Cold which also supplies piping hot water for coffee-breaks.

Send the coupon for complete specifications and roughing-in details

OASIS WATER COOLERS

The Ebco Manufacturing Company, Columbus 13, Ohio
Manufacturers of the most complete line of water coolers
Distributed in Canada by G. H. Wood & Co., Ltd.

THE EBCO MANUFACTURING COMPANY
Dept. 5-G, Columbus 13, Ohio

Send specifications and roughing-in details for Oasis In-A-Wall Water Coolers.

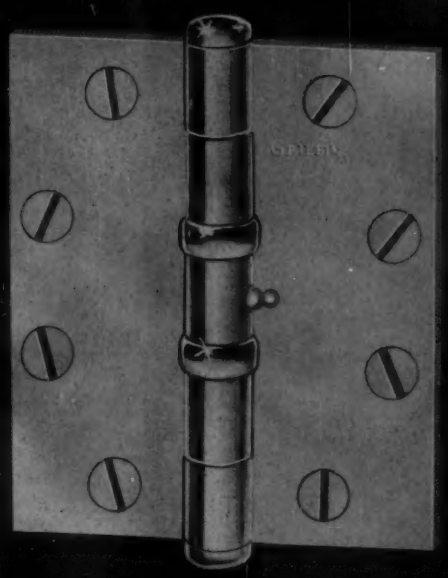
name_____

company_____

address_____

city_____ zone____ state_____

new from GRIFFIN



GRIFFIN-GRIP HINGE®*

"IT LOCKS THE PIN IN"

THE SECURITY HINGE THAT'S EASY TO INSTALL

When the Griffin-Grip Hinge is closed, the hardened steel ball is locked into the groove in the hinge pin. Makes it impossible to remove the pin.

EASY TO INSTALL—No more fussing with easy-to-lose set screws. Doors are hung faster than with any standard non-removable pin hinge when you specify new Griffin-Grip Hinge.

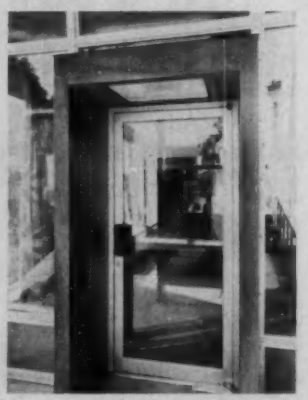
NEW Griffin-Grip is available on all ball-bearing and all template hinges 4" and larger in all standard hardware finishes. Specify GG for the impregnable Griffin-Grip hinge 'it locks the pin in.'

GRIFFIN MFG. CO. • ERIE, PA.

GRIFFIN

*pat. pend.

Product Reports



Aluminum Entrance Door

The *Vampco* line of aluminum curtain walls and windows has been expanded to include aluminum entrance doors, frames, side lites and transoms. The alumilite-finished doors come complete with hardware, glazing and weatherstripping, in standard and custom sizes. All-welded, they have no exposed screws or fastenings, and feature a tamper-proof hinge with "hidden" pins. *Valley Metal Products Co., Plainwell, Mich.*

Flush Anchor Bolt Fitting

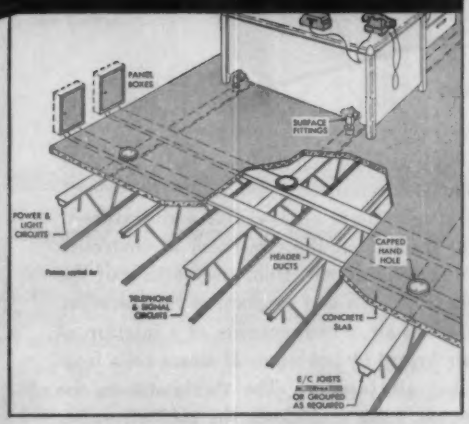
The new *Deco* anchor bolt fitting, a flat-topped box-like casting which eliminates above-floor projections until columns or equipment are actually installed, contains a floating oblong nut that can be adjusted in all directions to compensate for errors in setting. Columns or machines are attached to the fitting by screwing a removable stud into this nut. Cast of strong malleable iron, the fittings are available separately or complete with anchor bolt and stud in sizes from ⅜ to 1½ in. bolt diameters. *Decatur Engineering Co., 519 East William St., Decatur, Ill.*

more products on page 286

This open-web steel joist carries two loads... structural and electrical

The E/C Joist is a Standard Open-Web Steel Joist with an electrical raceway substituted for the conventional top chord. Each E/C Joist has the same load-carrying capacity as a comparable standard joist, and the same load table applies.

APPROVED BY U.L. Ceco E/C Joists are listed by the Underwriters' Laboratories for use with electrical header ducts and accessories manufactured by General Electric, National Electric Products Corporation and Walker Brothers.



Electrical, telephone and signal wires can be run from the panel boxes down through the header ducts, into the top chord of the E/C Joist and up through the surface fittings to desks located anywhere on the floor. Whenever desks are moved, surface fittings can be placed along the joists to service the new positions.

Now you can provide Underfloor Electrification Raceways for only 50¢ a square foot—half the cost of the next most economical quality system

As everyone knows, Standard Open-Web Steel Joists carry the structural load with utmost economy. And now, for as little as 50¢ a square foot more, Ceco's *Electro-Channel* Open-Web Steel Joists carry the electrical load, too. Cost is half of the next most economical quality system. Included with the Ceco system are header ducts, hand-holes and markers, installed—as well as the E/C Joist integral raceways. The 50¢ buys a two-duct system on 6′ 0″ centers. Comparable savings are offered in three-duct systems. Call your Ceco engineer or send coupon for manual. Ceco Steel Products Corporation. Sales offices, warehouses and fabricating plants in principal cities. General offices: 5601 West 26th Street, Chicago 50, Illinois.

CECO STEEL

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE • Steel Joists / Steelforms Concrete Reinforcing / Curtainwalls, Windows, Screens, Doors/Cecoframe Buildings/Roofing Products/Metal Lath

AR

Please send Introductory Manual No. 3011 covering Ceco Electro-Channel Steel Joist Construction.

CECO STEEL PRODUCTS CORPORATION
5601 West 26th Street, Chicago 50, Illinois

NAME_____

POSITION_____

FIRM_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

A MODERN CONCEPT FOR

Heating, Ventilating and Cooling of Schools

By F. J. KURTH, Vice President
in Charge of Engineering, Anemostat Corporation of America

Educational efficiency

The Anemostat Dual Duct High Velocity System provides a controlled and healthy environment in accordance with the highest standards of comfort and is therefore conducive to more vigorous activity in the classrooms. It is a modern heating and ventilating system, carefully researched and new in concept, and is economical to install and operate. It is an effective heating and ventilating system, which later can be readily adapted to air conditioning by the addition of a central-station type refrigeration system.

Because large sums of money must be spent for new schools, it is important to study all factors which will improve educational efficiency. Though well constructed and equipped, many new schools are not provided with modern heating, ventilating or cooling systems which furnish comfort during all seasons of the year. Experience has shown that a proper climatic condition will improve student and teacher efficiency to the extent of a cumulative gain of approximately twenty percent.

System design

First the volume of air required for a classroom must be determined. In most communities this is regulated by local codes on a cubic foot per pupil basis.

Although requirements vary in different localities from ten to thirty cubic feet of fresh air per minute, there are other factors which must be considered: for ventilation purposes, when cooling is not used, a large volume of air will, of course, do a better job than a small volume; however, the introduction of from 1000 to 1200 cubic feet of air per minute is adequate. If air conditioning is installed, the engineer may specify air temperature differentials of 30° or more between the supply air in the cold duct and the room temperature—Anemostat Air Diffusers will diffuse air at high temperature differentials without draft.

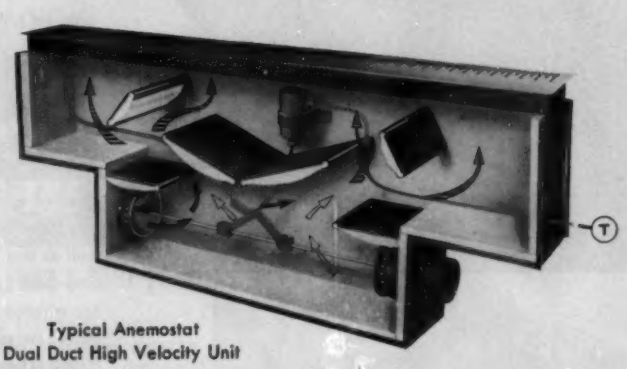
Location and type of units

The location of the units in the classroom is determined by the climate of the community in which the school is located and the construction of the school with particular reference to glass areas. When winters are severe the *under the window type units* must be used and two units per classroom should be installed as shown on the layout. The return air can be moved through corridors, ducts in corridors or exhaust plenums in the corridor ceilings.

In schools in mild climates or in colder climates where double glazing is used, the *sidewall units* will do an excellent job of year-round heating, ventilating and cooling. Two units providing from 500 to 600 CFM each per classroom are recommended. The return air can be returned to the fan through corridors, corridor ducts or plenums.

When two units are installed in a classroom, both are controlled by one

The Basic Principle of Anemostat School Units



Typical Anemostat
Dual Duct High Velocity Unit

The illustration shows a high velocity unit designed for a dual duct system for either heating and ventilating or complete air conditioning. To maintain ideal conditions, air is evenly and draftlessly diffused at high velocity throughout the classroom at controlled temperature; one duct carries cold air from the outside of the building, or cold air cooled by coils and mechanical refrigeration, the second duct carries warm air, which consists of a mixture of fresh and recirculated air heated by hot water or steam coils from heating boilers or by hot air furnaces. The thermostat in the classroom opens the hot air valve and closes the cold air valve, or vice versa depending on the room temperature requirements.

thermostat which should be located on an inside wall.

Ducts

The ducts can be installed in various ways depending on the type of structure: beneath the floor, on classroom or corridor ceilings, in roof spaces or on top of the roof. If tile or transite pipe is used the ducts can actually be buried in the ground. Because no water or steam is used, the ducts can be run in practically any space, as corrosion or trapping is not a problem.

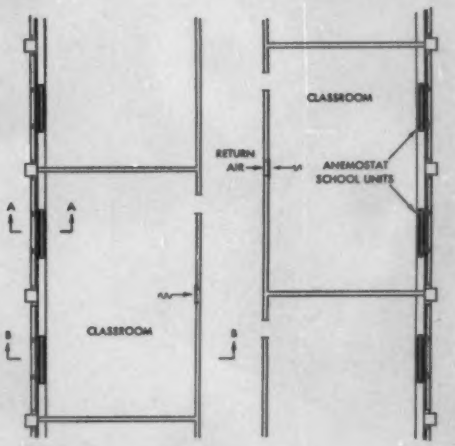
Equipment room

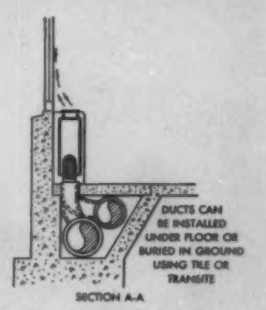
For reasons of economy, the fan room or rooms should be so located as to keep the duct runs as short as possible. However, there is no problem in running ducts long distances; dual duct systems in commercial buildings often have duct-runs of over 500 feet. The fans are usually of the Class II type and can be either the forward or backward curve type. Consideration should be given to fans of the air-foil type, which are designed for quiet operation at high pressures.

Mechanical or electrostatic filters are generally used in high class commercial buildings and should also be considered for schools. Clean, filtered air properly diffused at controlled temperature is the answer to health and comfort in classrooms.

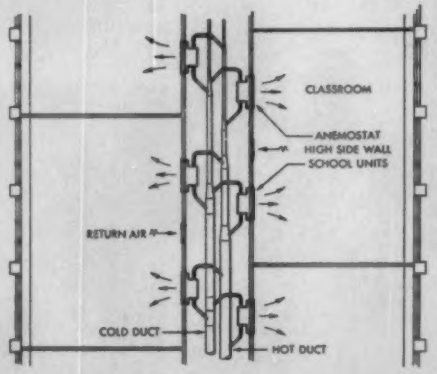
TYPICAL CLASSROOM LAYOUTS

High Velocity Under the Window Units

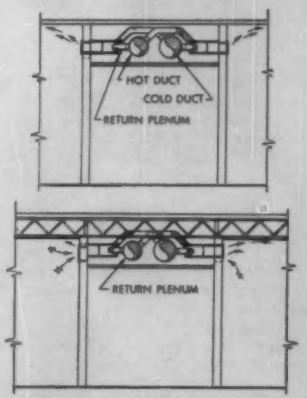




High Velocity High Sidewall Units Installed in Corridor Ceiling



Typical Sections Showing High Sidewall Type of Installation



AC-1362

Advantages of the Anemostat Dual Duct High Velocity System

The Anemostat dual duct high velocity air distribution system for heating, ventilating and cooling is ideal for all types of classrooms from kindergarten through college. It offers many important architectural and engineering advantages:

1. *Low First Cost*
2. *Low Maintenance Costs*
3. *Draftless Air Distribution*
4. *Eliminates Window Down Drafts*
5. *Scientific Temperature Control*
6. *Easily Adapted to Future Air Conditioning*
7. *Quiet Operation*
8. *Rugged Construction*
9. *Meets All Code Requirements*
10. *Pressure Balanced*
11. *Meets Modern Architectural Design*

New Anemostat School Catalog
contains complete data on Anemostat Dual Duct High Velocity Units. Write for your copy to

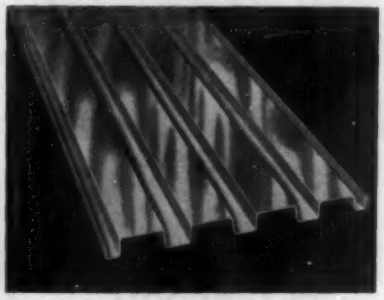
Anemostat Corporation of America
10 E. 39 Street, New York 16, N.Y.

One-Coat Curing Compound

Newly-laid concrete floors can be cured, hardened and dustproofed with a single coating of *West* Concrete Floor Treatment applied immediately after trowelling. The quick-drying, membrane-forming liquid compound is colorless, leaves no streaks and will not alter the color of the finish floor. Protected surfaces can be walked on within 24 hours. *West Chemical Products, Inc., Building Products Div., 42-16 West St., Long Island City 1, N. Y.*

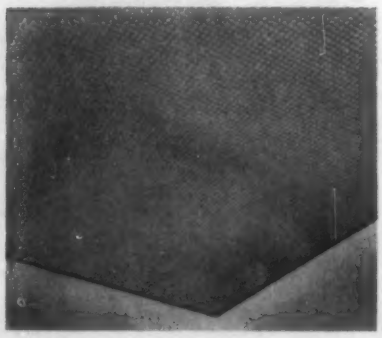
Non-Patterned Vinyl Wallcovering

The architect's need for a plain, wear-resistant, easy-to-clean wall finish is filled by a new vinyl wall-covering that looks like stippled paint but has all the advantages of vinyl. *Vicrtex VEF* "Stip-L-Tex" is stocked in 40 non-glossy shades, and can be matched to any desired color on orders of 300 yds and up. It may be hung on wood, metal, glass or plaster. *L. E. Carpenter & Co., Inc., Empire State Bldg., New York 1, N. Y.*



Acoustical Roof Deck

Milcor Acoustideck, a combination steel roof deck and acoustical ceiling, derives its .70 noise reduction coefficient from four rows of perforations located along the vertical webs. Precut sound absorbing batts installed between the ribs further reduce sound reflection. Made with the same profile as *Milcor* Type B roof deck and interchangeable with it, *Acoustideck* will span up to 10 ft under normal roof loads. It comes in 18, 20 and 22 gauge steel either Bonderized and prime coated or galvanized; 14 and 16 gauge, galvanized only. *Inland Steel Products Co., 4101 W. Burnham St., Milwaukee, Wisc.*



Low Cost Luminous Ceiling

A new finish trim is said to permit installation of a floating luminous ceiling at a cost competitive with conventional suspended acoustical ceiling and lighting systems. When used with *Infinilite* non-modular ceiling panels, which interlock to form a continuous circular-louvered ceiling, it makes intermediate "T" bars or a supporting grid unnecessary. *Integrated Ceilings Corp., 9011 Beverly Blvd., Los Angeles 48, Calif.*

26 YEARS OF PIONEERING

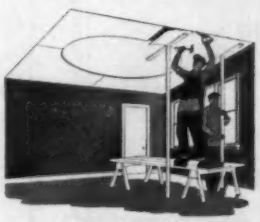
DRY-WALL CONSTRUCTION
PERFECTED WITH
Homasote Big Sheets

$60,000,000 of homes have been built with Homasote Big Sheets — since we began, in 1932, our pioneering in Dry-Wall Construction. Between 1932 and 1946, we spent more than half a million dollars in research, covering all parts and materials in home construction.

Among the outstanding facts is the value of using materials in Big Sheets, wherever possible. Why handle four pieces to cover 112 sq. ft. of wall—when it can be covered with one 8′ x 14′ piece? 22 joints are eliminated in every thousand square feet. Less than half as many nails required.

X-NAILING... Expansion problems vanish with X-Nailing. Snap diagonal chalk-line marks — corner to corner. Nail along these lines—one nail in each stud. The panel moves far less when fewer nails are used.

Here is continuous, crackproof coverage for any ceiling area. It is actually "continuous dry-wall" construction, with no perceptible seams. The whole ceiling literally *floats* — clear of all walls—free to expand or contract as a unit in either dimension. No ceiling joists are needed — the Wilson Air-Float ceiling hangs from trusses, rafters or collar beams. No alteration of pipes or wiring is required. Air-conditioning and indirect lighting are easily introduced. Old ceilings can be "lowered". Multi-layer ceilings — for modern design and effective sound-conditioning—are "natural" to this method. Interior wall partitions are movable, because they are not load-bearing.



Ornamental Ceilings at minimum cost

Homasote Big Sheets lend themselves to many ceiling treatments—with and without beams. Every ceiling has the strength, the insulating and sound-deadening qualities always associated with Homasote.

Ornamental ceilings add interest—oval, diamond, square and rectangular patterns are easily and quickly built—and at far lower cost.

The 72-page Homasote Handbook gives complete application instructions for all Homasote products—from underlayment to ceiling to roof—from exterior finish to sheathing to interior finish. It gives the **know-how** of all our experience. Use the coupon today!

HOMASOTE
COMPANY

In U. S., kindly address Trenton 3, New Jersey.
In Canada: Toronto 12, Ont.— 224 Merton Street

SEE OUR CATALOG IN SWEET'S

Send the literature and/or specification data checked:

☐ "88", "48" and "44" Roofing ☐ Roof Deckings
☐ Wilson Air-Float Ceilings ☐ Grooved Vertical Siding
☐ One-Man Sheathing ☐ Underlayments
☐ Homasote (72 pg.) Handbook

NAME.....
ADDRESS.....
CITY..... ZONE.... STATE.... L-6

OVER THE YEARS

Flexalum Audio-Visual blinds will be your most economical, most practical classroom window covering!

FLEXALUM A-V BLINDS GIVE YOU EVERYTHING FROM FULL DAYLIGHT (WITHOUT GLARE) TO "PROJECTION" DARKNESS—yet they *cost less to install* than any combination of black-out and conventional window covering. What's more, they *cost less to maintain*, too. Flexalum's special spring-tempered aluminum, wipe clean plastic tape and nylon cord give years of trouble-free service. (That's certainly a comfort in these days of ever-increasing maintenance costs.) And, the greater number of slats per blind, special tape construction and light trap channels enable you to turn any classroom into a dark auditorium at the flick of a cord. Less light comes in . . . less money goes out—with Flexalum A-V blinds . . . sold with a written five year guarantee by Hunter Douglas Aluminum Division of Bridgeport Brass Co.

(Installation shown: Carle Place High School, Long Island, N. Y.)

Flexalum
AUDIO-VISUAL
BLINDS

Hunter Douglas Aluminum Corp. AR-11-58
405 Lexington Ave., New York 17, N. Y.

I am interested in getting (at no obligation) ☐ specification data
☐ cost estimates on Flexalum® Audio-Visual Blinds

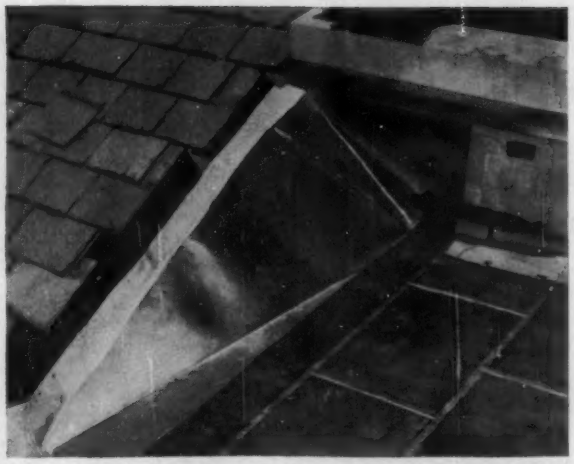
NAME..... TITLE.....
(Please Print)

SCHOOL.....

ADDRESS.....

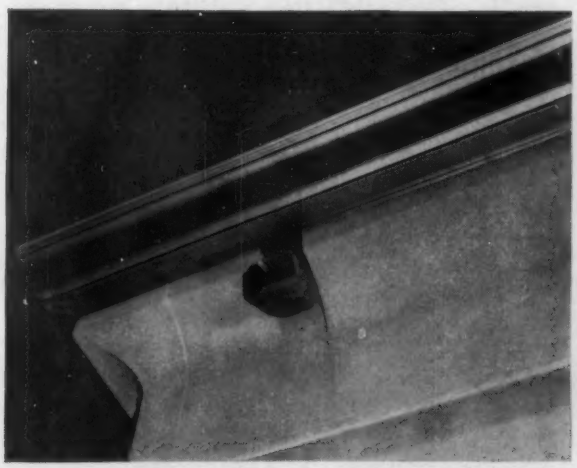
CITY..... STATE.....

Plan for strength . . . For example, this graceful steeple on St. Dominic's Church, Cincinnati, O. It was built on the ground of rigid, double-locked Monel* nickel-copper alloy sheeting – then hoisted into place. With strong Monel alloy it will stand up to wind, ice, and snow. It works *with* its masonry setting too – has almost identical expansion.



Plan for durability . . . Monel flashings and flat seam work on St. Dominic's will resist pitting, cracking. Monel roofing stands up to corrosive atmospheres, grit, soot. (Today, new crimped forms of Monel roofing sheet also practically eliminate the need for expansion joints – reducing another constant source of trouble.)

Plan for generations of protection with Monel roofing



Plan for lasting beauty . . . This Monel alloy gutter extends the cut stone's classic sweep. Monel roofing weathers to a satin grey that harmonizes with stone. Its corrosion resistance eliminates streaking. Architect – A. V. Walters; General Contractors – Edw. T. Honnert & Sons; Sheet Metal fabricators – Weitkamp and Robinson, Inc., Cincinnati, Ohio.

Plan for ease of installation . . . Monel roofing is easily cut, formed, soldered into place. It's strong, corrosion-resisting . . . permits the use of lighter, easy-to-handle gauges . . . takes years of flexing. Roofing contractors don't need any special forming or soldering equipment – and workmen use familiar techniques with Monel roofing.

*Registered trademark

More information? Yours by writing Inco.

THE INTERNATIONAL NICKEL COMPANY, INC.

67 Wall Street INCO New York 5, N. Y.

MONEL ROOFING

FOR THE LIFE OF THE BUILDING

MUTSCHLER
MEANS HOMEMAKING... AT ITS FINEST!

Facts prove Mutschler the elite of school homemaking equipment. Northern maple cabinetwork is sturdily built to take the rigors of everyday school usage. Catalytic finishes in decorator colors and natural grain are practically impossible to scratch, are impervious to household solvents and cleaners. Special-purpose cases for all homemaking needs. New classrooms or remodeling project, inquire about Mutschler. Complete information and specifications are available for your approval . . . without obligation.

Model Clothing Center
Campus Building
Community High School
Blue Island, Illinois

ARCHITECT:
Nicol & Nicol
Chicago, Illinois

MUTSCHLER SALES OFFICE:
I. P. Rieger Co.
Bellwood, Illinois

SEWING MACHINES:
White Sewing Machine Corp.
Cleveland, Ohio

FOR...
Foods Laboratory
Laundry Areas
Clothing Laboratory
Sewing Areas
Grooming Areas
Home Management Areas
Child Care Areas
Arts & Crafts Rooms
General Storage Areas

Mutschler
SCHOOL FURNITURE

MUTSCHLER BROTHERS COMPANY
Dept. H-2111, Nappanee, Indiana
Please send address of our nearest Mutschler sales engineers.

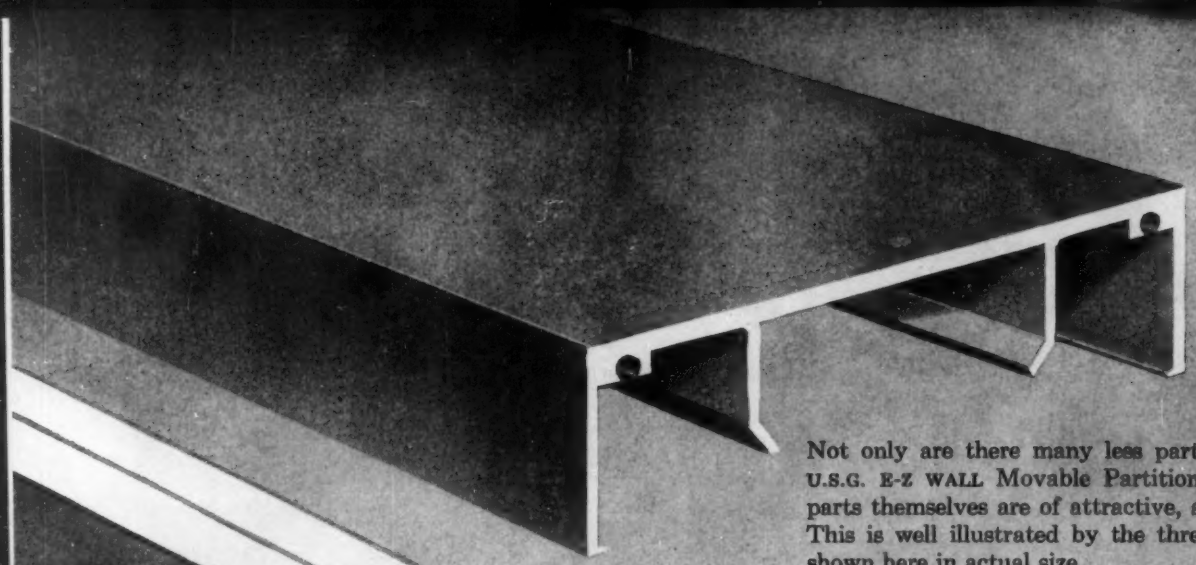
name

school or firm

address

city, state

We are interested in:
new department_____; remodeled department_____



Not only are there many less parts in the new U.S.G. E-Z WALL Movable Partition system, but parts themselves are of attractive, simple design. This is well illustrated by the three basic parts shown here in actual size.

NOW...

Modern space control that's simple,

RAILING HEIGHT WALL ELEVATION

GLAZED HEIGHT WALL ELEVATION

CEILING HEIGHT WALL ELEVATION

CORNICE HEIGHT WALL ELEVATION

economical and incombustible

Simple elements in U.S.G.'s new E-Z Wall Movable Partitions reduce parts from the usual 200 . . . or even 300 . . . to less than 30!

Maximum simplicity, genuine economy, extra fire safety —these important advantages are yours with U.S.G.'s new E-Z WALL Movable Partitions!

These simpler, more economical partitions adjust easily to changing needs, yet maintain the privacy and appearance that go with permanent partitions. Hollow construction provides maximum flexibility for pipes and wiring. All basic metal parts are of anodized aluminum. Panels are of strong, incombustible laminated gypsum board that may be painted or decorated to match any decor.

E-Z WALL Movable Partitions are installed and serviced by a nation-wide organization of U.S.G. Partition Contractors. To learn how this new concept in movable partitions can solve space problems better, mail the coupon below.

UNITED STATES GYPSUM

the greatest name in building

USG UNITED STATES GYPSUM

United States Gypsum, Dept. AR-81
300 West Adams Street, Chicago 6, Illinois

Gentlemen:

- ☐ Please send illustrated booklet about the new, simplified E-Z WALL Movable Partition System.
- ☐ I am interested in a demonstration of the new E-Z WALL Movable Partition.

Name_____

Company_____

Address_____

City_____ Zone___ State_____

Architectural Porcelain

(A. I. A. 15-M-1) Describes uses of porcelain panels with examples of buildings covered with this material. *Davidson Enamel Products, Incorporated, 1126 East Kibby Street, Lima, Ohio*

Booster Water Heaters

How to Design, Specify and Buy Booster Water Heating Systems contains full instructions, tables, and charts for estimating water heating requirements for various large installations, such as apartment houses, schools, swimming pools, etc. Also lists controls, safety devices and accessories for different types of systems. 24 pp. *The Cleveland Heater Company, Dept. LG, 2310 Superior Avenue, Cleveland, Ohio*

Drawing for Good Reproduction

Suggests techniques for improving reproduction; illustrations of drafting techniques and kinds and uses of drawing materials, including drawing and tracing papers and cloths, pencils and erasers. *32 pp. $1.00 National Association of Blueprint and Diazotype Coaters, 1757 K Street, N. W., Washington 6, D. C.*

Lighting Fixtures

Fluorescent, incandescent and floodlighting fixtures are described in this catalogue; illustrations, descriptions, dimensions, lighting curves and other data on fixtures for commercial, industrial and outdoor use. 112 pp., *Electro Lighting Corporation, 1355 South Paulina Street, Chicago 8, Ill.*

Watertight Masonry

Bulletin O.M.-8A discusses the important elements involved in the design and specification of watertight masonry; covers proportioning of ingredients, types of mortar, compatibility of brick and mortar, importance of shrinkage control, etc. 6 pp. *The Master Builders Company, 7016 Euclid Avenue, Cleveland, 3, Ohio*

Electric Heaters

and Heating Devices includes information on pipe heaters, 1-in. immersion heaters, domestic water heater replacement elements, new ratings and configurations of tubular heaters, and many others. Various heating processes are described in a power requirements section, and typical application problems are solved to give heating requirements in a short-form method: specifications, operating information and prices are included. 52 pp. *General Electric Company, Schenectady 5, N. Y.*

Tele-Power Duct Systems

(A. I. A. 31C-62) Describes a system for installing surface-mounted communication and power wiring. (The system consists of two parallel runs of raceway, one for power and one for telephone and communication wiring.) 4 pp. *Wiremold Company, Hartford, 10, Ohio**

Nailing of Plywood Sheathing

. . . with "Hi-load" Nails presents data about the effectiveness of threaded nails. The paper shows that plywood sheathing can be applied more efficiently and more effectively if properly threaded nails of greater length and larger shank diameter are used in place of the traditionally used 6-, 8-, and 10-wire nails. Tables, charts and graphs are included. 16 pp. *Virginia Polytechnic Institute Wood Research Laboratory, Blacksburg, Va.*

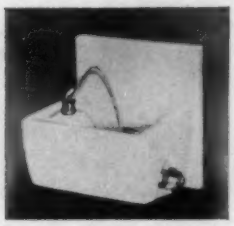
**Additional product information in Sweet's Architectural File, 1958*

more literature on page 298

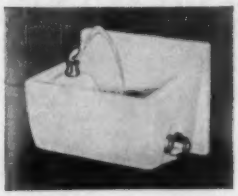
Halsey® Taylor .. the most modern line of drinking-water equipment you can specify

No. 5651—Ultra-modern recessed type; Vitreous China; self-closing stop, push-button glass filler. Two-stream projector, automatic stream control.

No. 5623—Streamlined face-mounted drinking fountain, heavy vitreous china, integral trap housing, concealed wall hanger. Two-stream mound-building projector and Halsey Taylor automatic stream control.



No. 5616—Face-mounted; vitreous china. Same specifications as No. 5623, except has 16" back wall face height.



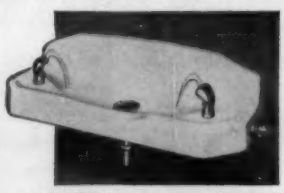
No. 5601—Face-mounted; vitreous china. Same specifications as No. 5623, except has 12" back wall face height.

Modern in Design... TAYLORed for you!

You'll find Halsey Taylor Drinking Fountains modernly designed to blend harmoniously with individual interior decor! And, even more important, they are the products of a house devoted exclusively to the manufacture of quality drinking-water equipment.

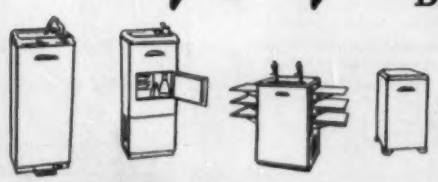
Every Halsey Taylor feature is the development of years of research, providing you with maximum health-safety and dependable, fool-proof service.

The Halsey W. Taylor Co., Warren, O.



No. 5702—Battery Type. Concealed hangers. Two separate union supply connectors with positive shut-off valves. Two two-stream projectors, automatic stream control.

Halsey® Taylor Drinking Fountains



Halsey Taylor coolers, too, are available in wide variety—see latest catalog, or Sweets

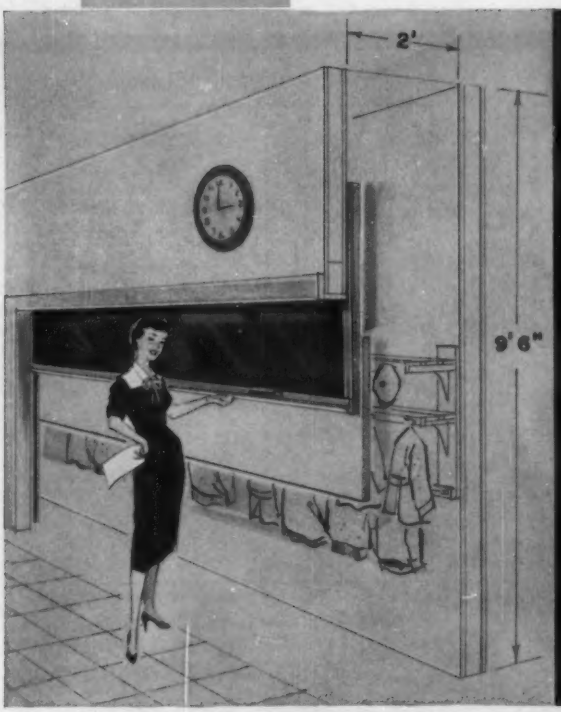
102A

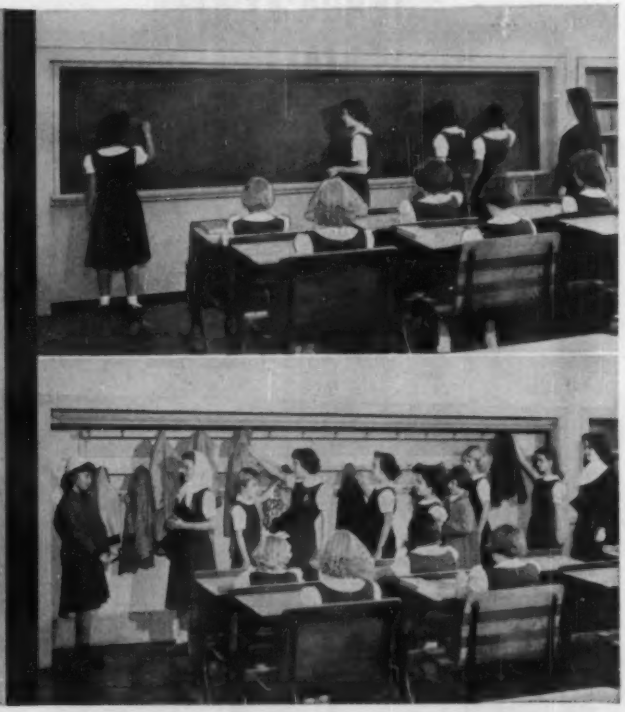
THE MARK OF QUALITY

BARBER COLMAN

NEW Barcol WARDROBEdoor only $240*... saves building costs, increases space utility

...AND TEACHERS WANT IT!





Budget-bound school planners and classroom teachers alike find the answer to their wardrobe needs in the new, easy-operating Barcol WARDROBEdoor.

Upward action gives more space economy, open or closed. Roomy wardrobe requires only 2-ft depth . . . class has full use of contingent floor space at all times. Teachers say WARDROBEdoors eliminate exposed coat racks, cloakroom congestion, and desk-placement problems often prevalent with other type wardrobes.

Firm, unbroken chalkboard and tackboard mounting surface adds working wall space — teachers use raised WARDROBEdoor to keep written material out of sight until it is wanted.

Clear-access wardrobe, easy operation, and neat appearance make teachers happy with this building-economy facility. Floor and wardrobe are completely clear for student traffic and teacher supervision when WARDROBEdoor is raised. Easy, quiet, fingertip operation makes attractive, business-like class environment simple to maintain. Sections are highly scuff-resistant and have fine finishing qualities.

Announcements are also appearing in *Nation's Schools* and in *Catholic Building and Maintenance* magazines.

* f.o.b. Rockford, 10' x 6' door

New FREE Architect's Manual

Ask your Barcol distributor (under "Doors" in phone book) or send coupon for free copy. Fully illustrated, gives specifications and installation requirements for this important cost saver with the advantages teachers need.

BARBER-COLMAN COMPANY
Dept. P811, Rockford, Illinois

Name_____

Firm_____

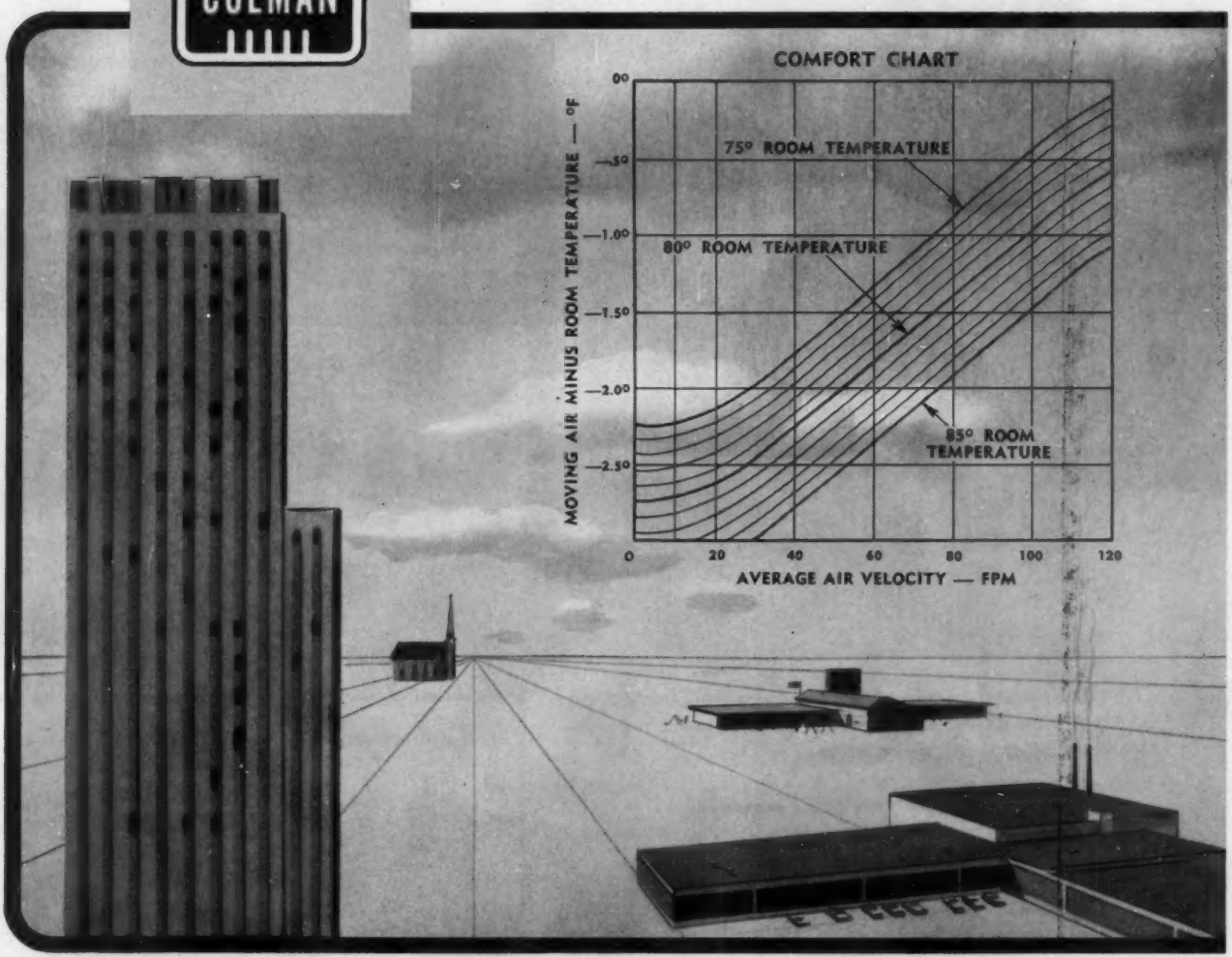
Address_____

City_____ State_____

THE MARK OF QUALITY

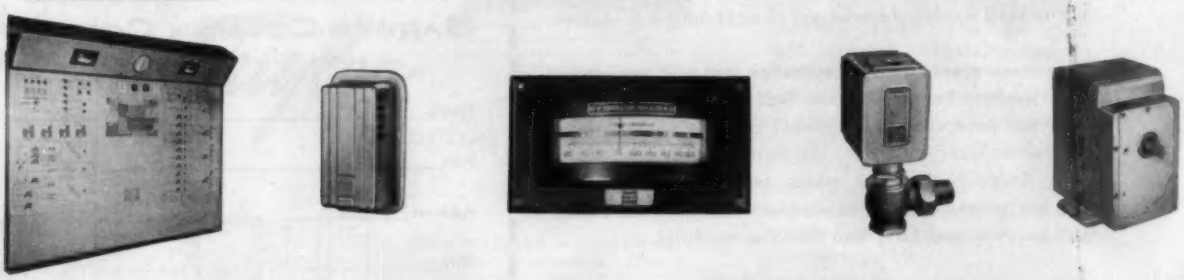
BARBER COLMAN

You can guarantee will



ELECTRIONIC AUTOMATIC CONTROLS...

A complete line of automatic controls for air conditioning, heating, and ventilating service.



ONE SOURCE...UNDIVIDED RESPONSIBILITY.....

every air conditioning job conform to this comfort chart*

* When you combine Electrionic Automatic Controls with Uni-Flo Engineered Air Distribution

It is impossible to provide uniformly comfortable air conditioning without the correct correlation between air movement and room temperature. When occupants complain that a room is alternately too warm, too cool, or too drafty, you can be sure that the correct relationship between air distribution and temperature control has not been met.

The importance of this relationship cannot be overemphasized because an individual's comfort is affected by:

1. **Room temperature.**
2. **Velocity of conditioned air being introduced to the room.**
3. **Temperature of moving air in relation to average air temperature in the room.**

The scientifically correct relationship is plotted on the Barber-Colman Comfort Chart shown at the left. This requires closely coordinated functioning of the system's automatic controls and its air distribution units.

Failure to meet the Comfort Chart requirements is the cause of complaints and costs long after the job is "done." This is the point at which it is difficult to establish responsibility for the faults in the system.

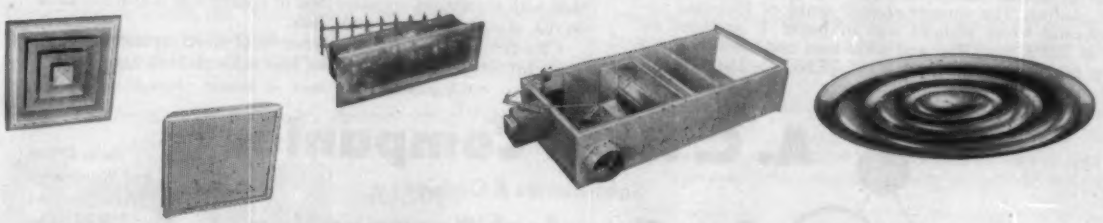
When Barber-Colman Electrionic controls and Uni-Flo engineered air distribution are combined on your job, you have complete assurance that the system will function correctly, providing constant comfort to the occupants of the building at all times. Barber-Colman guarantees this and assumes complete responsibility to see that it is accomplished.

Only Barber-Colman offers you years of combined experience in both automatic controls and air distribution — and assumes the *undivided* responsibility for delivering ideal indoor weather. Architect, engineer, owner, and occupant benefit by having this important obligation successfully discharged by a single supplier.

FOR COMPLETE INFORMATION ask for new fully illustrated Bulletin F-8326 which details the benefits of temperature control and air distribution combinations available through Barber-Colman.

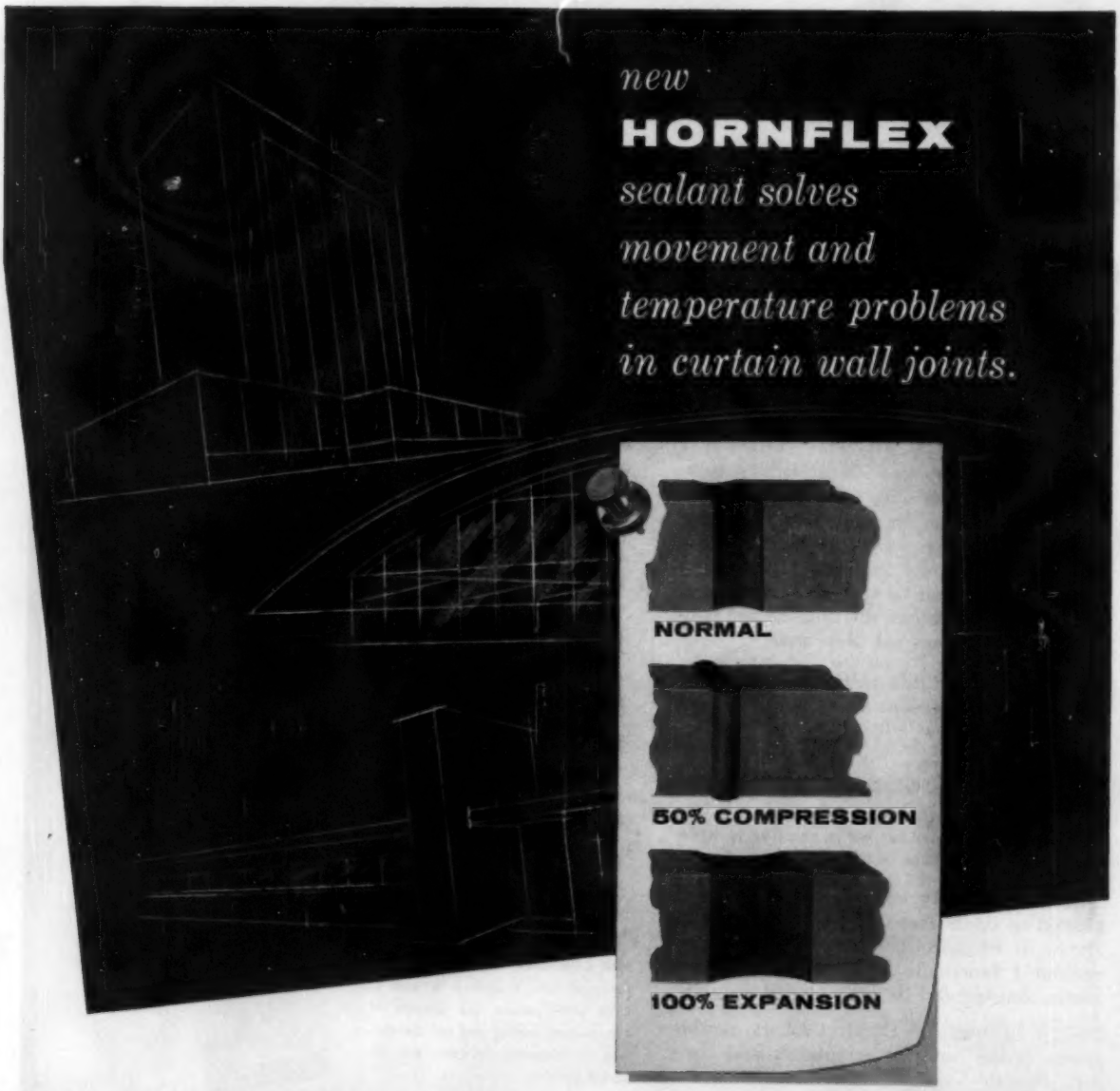
UNI-FLO ENGINEERED AIR DISTRIBUTION...

A complete line of air distribution products for better air handling.



.....BARBER-COLMAN COMPANY

Dept. K, 1604 Rock Street, Rockford, Illinois



Movement due to winds and extremes of temperature poses one of the most trying problems for the designer of curtain wall buildings. For not only must the joint material seal out water, it must be flexible as the building moves with the wind and its elements expand and contract with heat and cold. Too, unequal coefficients of expansion of different materials create additional joint stresses.

Hornflex Thiokol * LP-32 Compound is especially effective in curtain wall construction for sealing joints between panels of stainless or enameled steel, aluminum panels and glass in needlepoint glazing. The squeeze-stretch range of Hornflex absorbs exceptional stress without loss of bond! It provides an elongation of 325% to 500% and stays firm and elastic over a temperature range from 50°F BELOW ZERO to 250°F.

Laboratory test and job applications indicate that Hornflex, properly installed, will provide excellent protection for periods up to *25 years and more.*

Other uses for Hornflex are to fill and seal surface joints in bridges, highways, swimming pools, etc. It has excellent bond to other building materials including those of dissimilar surface density and structure. Hornflex does not oxidize or absorb moisture; effectively seals joints against air, dust and water.

Hornflex is supplied in a pleasing shade of grey which blends well with aluminum, stainless steel or concrete. It is also available in red, aluminum, white and black.

Like complete details? Call your local Horn representative or write for Hornflex Technical Bulletin to Dept. H56-911

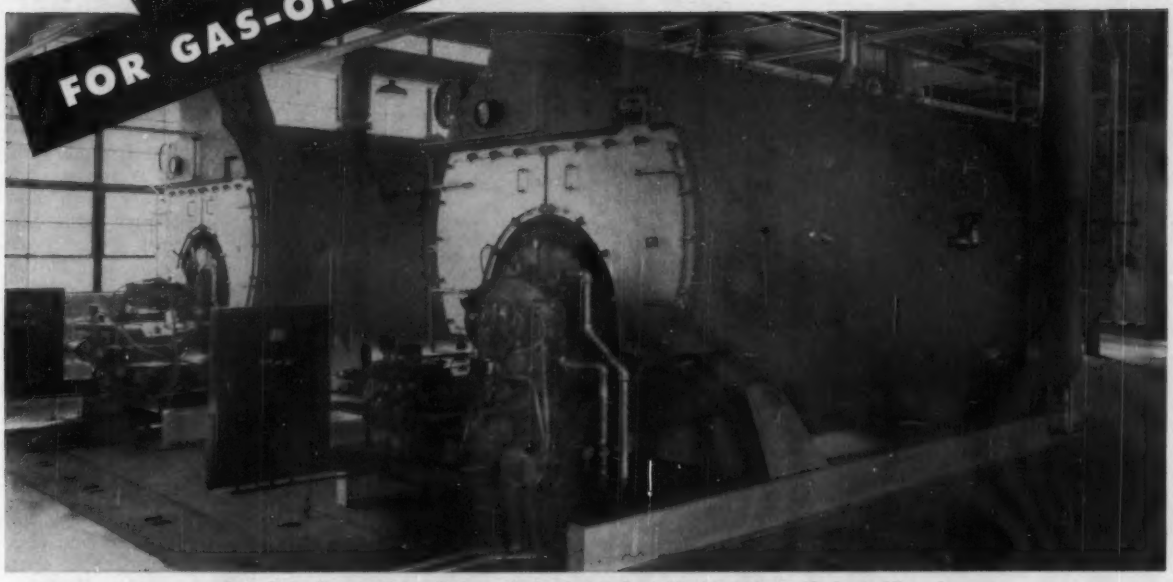
** A Registered Trade Mark of Thiokol Chemical Corporation.*

Plants:
Long Island City
Chicago
Houston
Los Angeles
San Francisco
Portland, Ore.
Toronto

A. C. Horn Companies
Subsidiaries & Divisions
Sun Chemical Corporation
750 Third Avenue, New York 17, N. Y.

Sales Offices and Warehouses throughout the United States and Canada

FOR GAS
FOR OIL
FOR GAS-OIL COMBINATION



Petro Boiler-Burner unit installation at the Lambert-St. Louis Municipal Airport , St. Louis, Missouri

Here in one complete package . . . is the PETRO FORCED DRAFT FIRING SYSTEM

Available as a complete boiler-burner unit. The Petro firing unit, integrated with matched Scotch boiler (as shown above), is a complete boiler-burner unit. Installation consists of little more than attaching fuel and power lines. No pitted boiler settings; no high stacks; no separate air supply; no panel wiring. It is a thoroughly engineered unit, factory tested, with all vital components matched and mounted on a single base.

Available as a burner unit only . . . will fit any boiler. Petro firing units can be applied to any boiler. The entire system is factory-built, wired and tested. Everything needed for ultra modern firing is mounted on a rigid steel frame ready to bolt to the boiler front. Integrated air system makes the usual firing arch, firebox pit and brick checker floor unnecessary.

Saves installation costs. Whether you buy the complete boiler-burner unit or install the Petro forced draft firing system in your present boiler, you save time and money and avoid several local contracts. The job is backed by factory responsibility. All the needed component parts have been engineered and installed as a working unit fitted to specific boiler and fuel requirements . . . it's ready to render peak service from the very start.

No stack needed. Petro forced draft firing units eliminate high stacks. In fact, the only flue connection necessary is to a simple vent for the spent products of combustion. Unlike induced draft systems, the Petro blower operates in clean, relatively cool air. No maintenance problems arise from overheated bearings or corrosive gases. Power consumption is cut, too, for with the contracted volume of cool air, a motor only about one-half as large as that used with induced draft burners is required.

Switches fuels quickly. The combination gas-and-oil firing system embodies distinct advantages of continuous operation. Alternate fuels may be introduced in as little as 60 seconds. No extended shutdown of equipment. Controls for completely automatic changeover of fuels are also available.

For more information please mail the coupon.

See Petro Catalog in Sweet's Architectural File

PETRO
T. M. REG. U. S. PAT. OFF.

HEATING
AND POWER
EQUIPMENT

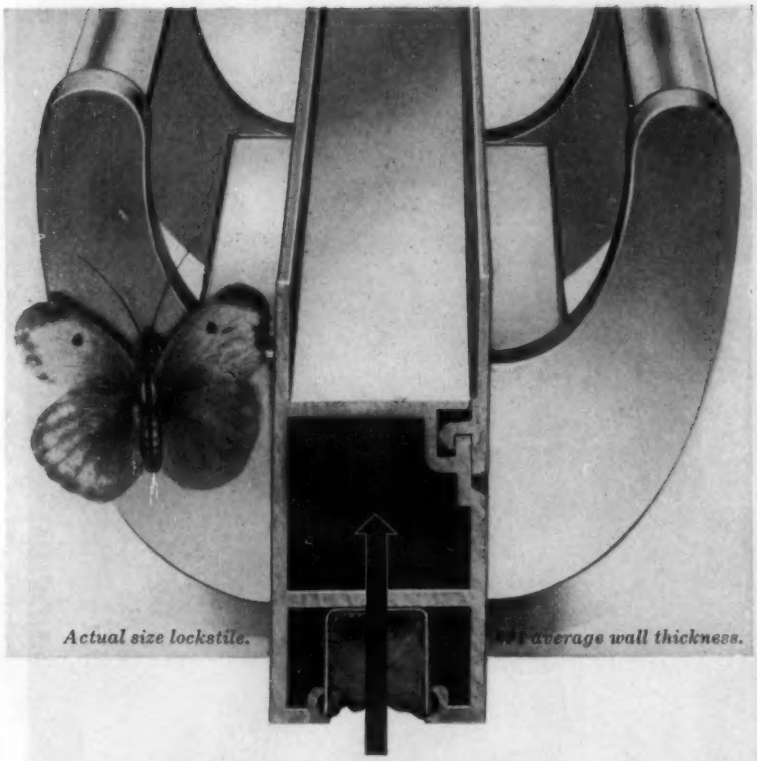
PETRO, 3218 West 106th Street, Cleveland 11, Ohio.
(In Canada, write to 80 Ward Street, Toronto, Ontario)
Please send catalog and specifications on Petro gas and oil firing units.

Name_____

Company_____

Address_____

City_____ Zone____ State_____



HOW **BRAWN**
BACKS UP THE
BEAUTY OF MILLER
SLIDING GLASS DOORS

Because a door's performance is vital, Miller's use of heavy tubular sections–with their engineered method of construction – produces a door unmatched for strength and design freedom.

For maximum weatherproofing Miller double-seals the vents with Schlegel Certified woven pile (silicone treated). All aluminum frames are Alumilited for durability and permanent satin finish. Thus the beauty of the lines (2 in aluminum, 1 in steel) is backed by strength and dependability...plus strong selling aids and national consumer advertising. Write for name of your stocking Distributor. See Sweet's Arch. File 16d/Mi.

sliding glass doors by **Miller**

Miller Sliding Glass Door Co., Inc. • Dept. AR, 3216 Valhalla Dr. • Burbank, Calif.

Office Literature

Floatless Liquid Level Controls
Describes B/W system for controlling liquid levels sans floats or moving parts in the liquid. Selection data, charts and application diagrams are included. 16 pp. *B/W Controller Corp., 2200 E. Maple Rd., Birmingham, Mich.*

Roof Insulation and Roof Decks
(A.I.A. 4-E-13, A.I.A. 37-B-2) Eight new data sheets for vermiculite concrete roof insulation and roof decks are accompanied by a long form specification that covers both and gives venting details and load span tables for sub-purlins. *Vermiculite Institute, 208 S. LaSalle St., Chicago 4, Ill.*

Emeri-Crete Flooring Bulletin
Gives specifications, technical data, and maintenance and cost information on Cortland emery aggregate surfacing for heavy duty concrete floors. 8 pp. *Walter Maguire Co., Inc., 60 East 42nd St., New York, N. Y.*

Garcy Lighting Fixtures
Describes and gives details and photometric data on Garcy line of shallow fluorescent fixtures. 8 pp. Bulletin 582-L. *Garcy Lighting, 2475 Elston Ave., Chicago 47, Ill.*

Metal Lath and Accessories
(A.I.A. 20-B-1) Includes descriptions of and data on Ceco line of metal lathing products. *Ceco Steel Products Corp., 5601 W. 26th St., Chicago 50, Ill.**

All-Brass Fittings
Covers *Galaxy* and *Constellation* series of all-brass fittings for a variety of plumbing fixtures. 26 pp. *Kohler Co., Kohler, Wisc.*

Counter Surfaces
Discusses advantages and limitations, relative cost, application methods and similar facts about commonly used counter surfacing materials. Circular F9.1, 15¢. *Small Homes Council, University of Illinois, Urbana, Ill.*

Reliance Grating and Treads
Features illustrations, descriptions and engineering data on a variety of gratings and treads, with supplementary information on fastening methods and surface treatments. 16 pp. *Reliance Steel Products Co., P. O. Box 510, McKeesport, Pa.**

**Additional product information in Sweet's Architectural File, 1958*

more literature on page 304

HOW AN ARCHITECT USED GENERAL ELECTRIC POWER GROOVE LAMPS TO HELP CREATE AN EFFECTIVE SELLING ENVIRONMENT

DENVER Architect R. L. Crowther says, "Our client, Mr. Harry Fontius, owner of the Fontius Shoe Stores here, knows from experience that good lighting helps sell merchandise. So we designed his store lighting around General Electric Power Groove Fluorescents. This functional system attracts attention to the display area—even from the street, even in broad daylight. The mass display area, situated between the front windows and the fitting area to the rear, is about half-way in visual effect between natural daylight and the light level in the sales and fitting areas. In this case, it's about 300 footcandles."

G-E POWER GROOVES ENHANCE MERCHANDISE and stimulate sales because customers can see the shoes easily . . . and can inspect each selling detail—the colors, stitching, texture, etc.

HOW DO G-E POWER GROOVES DO IT? By delivering nearly twice the light of High Output fluorescents . . . over 2½ times the light per foot of slimlines—at 5-20% lower initial cost per footcandle compared to other fluorescent lighting systems. This lighting helps capitalize on the efforts of the architect in the selection of color, form, shape and detail . . . making the entire decor more effective. G-E Power Grooves are available through

Banks of G-E Power Grooves located above a translucent panel ceiling. Architect: Richard L. Crowther, 257 Fillmore, Denver, Colo. • Electrical Contractor: Intermountain Electric Inc., Denver, Colo.

authorized G-E Large Lamp Agents — and are used by satisfied customers all over the country. Get your copy of the informative bulletin, "Power Groove Fluorescent Lamps" by writing: General Electric Co., Large Lamp Dept. C-845, Nela Park, Cleveland 12, O.

OPERATION up/turn

Progress Is Our Most Important Product

GENERAL ELECTRIC

G-E LAMPS GIVE YOU MORE VALUE FOR ALL YOUR LIGHTING DOLLARS

Seamloc custom color Adams carpet

Seamloc

carpets beautiful homes

From traditional to modern architecture, the beauty, quality and practical luxury of Seamloc carpet is always in good taste.

Architects and decorators throughout the country specify Seamloc carpet for installations of all types because:

Seamloc's thirty-three colors meet the demands of almost any color scheme.

Seamloc carpet, in comparable installations, will outwear all other carpets as much as four to one.

Seamloc carpet can be cut to any shape, re-cut or renewed at heavy traffic areas easily, economically. Seamloc's edges cannot ravel . . . need no binding.

Seamloc is economical too. The standard four and one-half foot widths join together to make any size carpet with almost no waste.

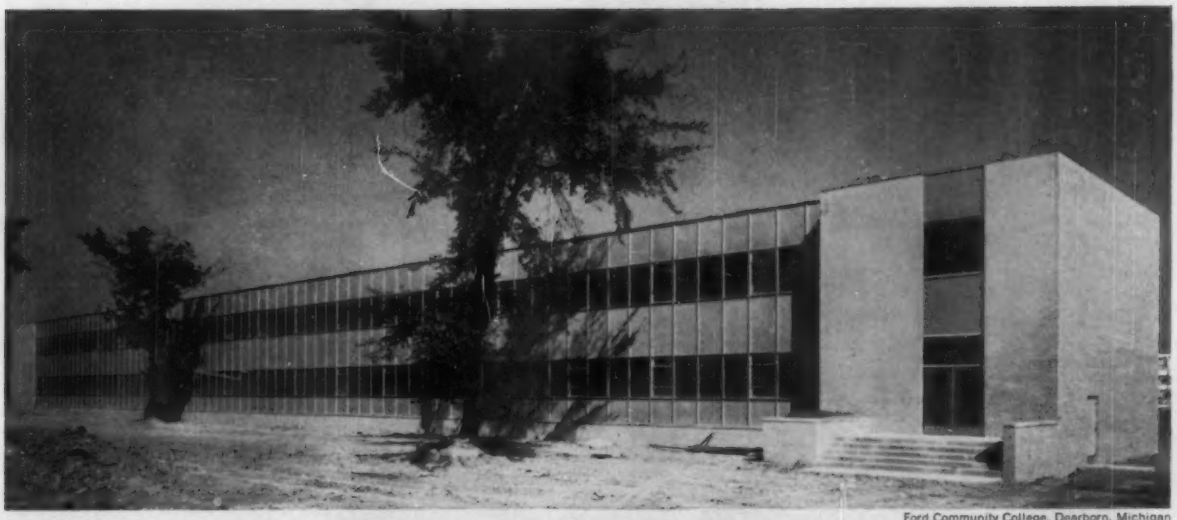
AND

Seamloc carpet is easier and cheaper to maintain than any hard surface flooring.

For your next floor covering job, specify Seamloc, the best in carpet.

For further details and color samples see your nearest Seamloc dealer or write:

SEAMLOC CARPET COMPANY-SANFORD, MAINE



Ford Community College, Dearborn, Michigan
Jahr-Anderson Associates, Inc., Architects / Atkin-Fordon Company, Contractor

B'Nai B'Rith Building, Washington, D. C.
Corning & Moore, Architects / Roscoe Construction Co., Contractor

Ceco Research shows what you need in Curtainwalls

There's a great deal of difference between construction and creation. But the two must work together. Though curtainwall construction permits creative freedom, architects, engineers and contractors agree it must be technically and economically sound. Ceco-engineered curtainwalls permit blending artistic expression with practicality. No guesswork is involved. Within the past year—through technical research in field and laboratory—Ceco has developed basic engineering principles which can be applied to almost any architectural design. You should have all this information before you start your next curtainwall plans. So come to Ceco's "library of experience"—ask your Ceco man for his help. Ceco Steel Products Corporation. Sales offices, warehouses and fabricating plants in principal cities. General offices: 5601 W. 26th St., Chicago.

CECO STEEL

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

Curtainwalls, Windows, Screens and Doors / Steel Joists / Metal Roof Deck / Steelforms / Concrete Reinforcing / Metal Lath

AR

CECO STEEL PRODUCTS CORPORATION
5601 West 26th Street, Chicago 50, Ill.

Please have a Ceco engineer see me with Curtainwall data from your "library of Curtainwall experience."

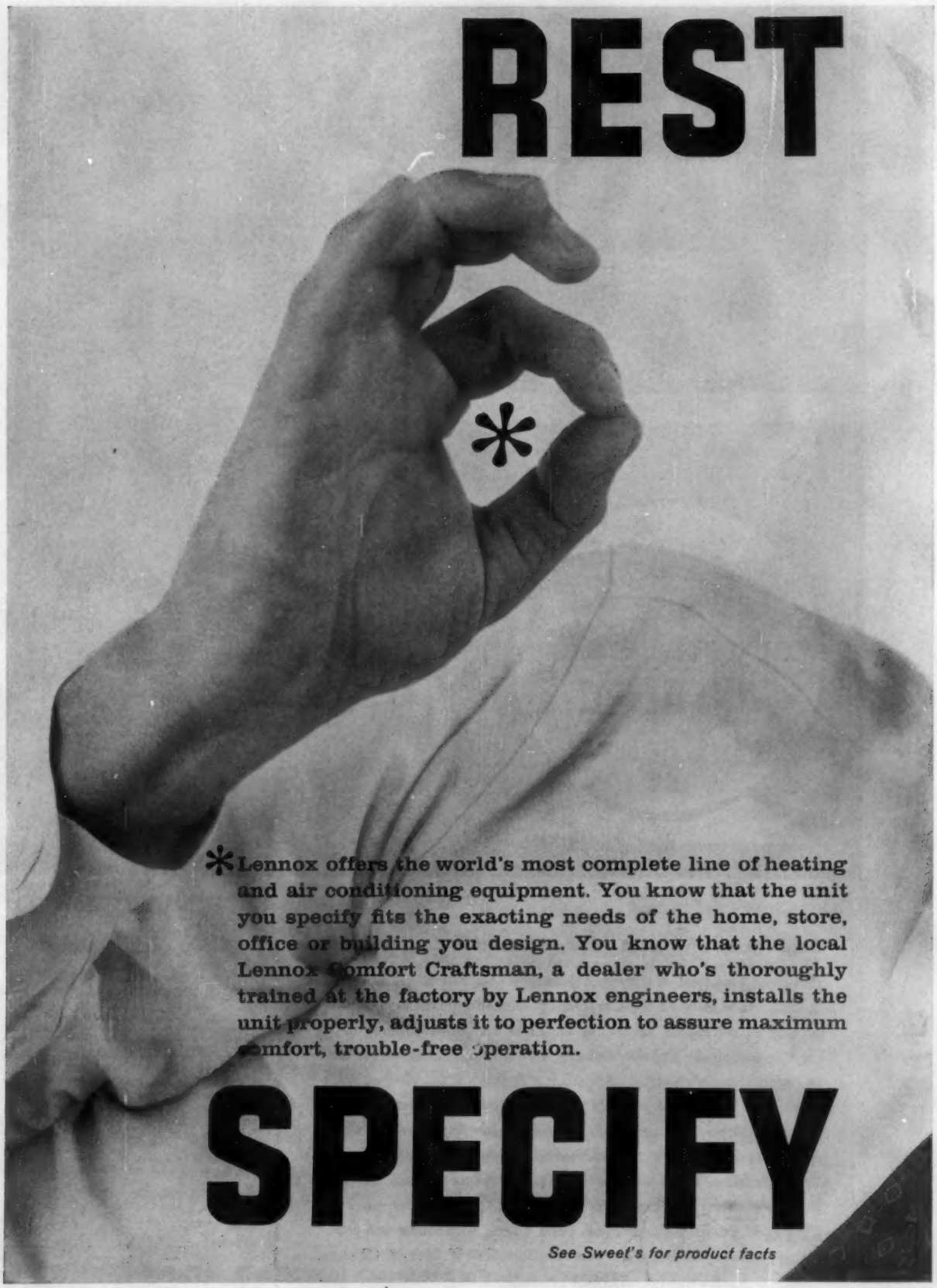
name_____

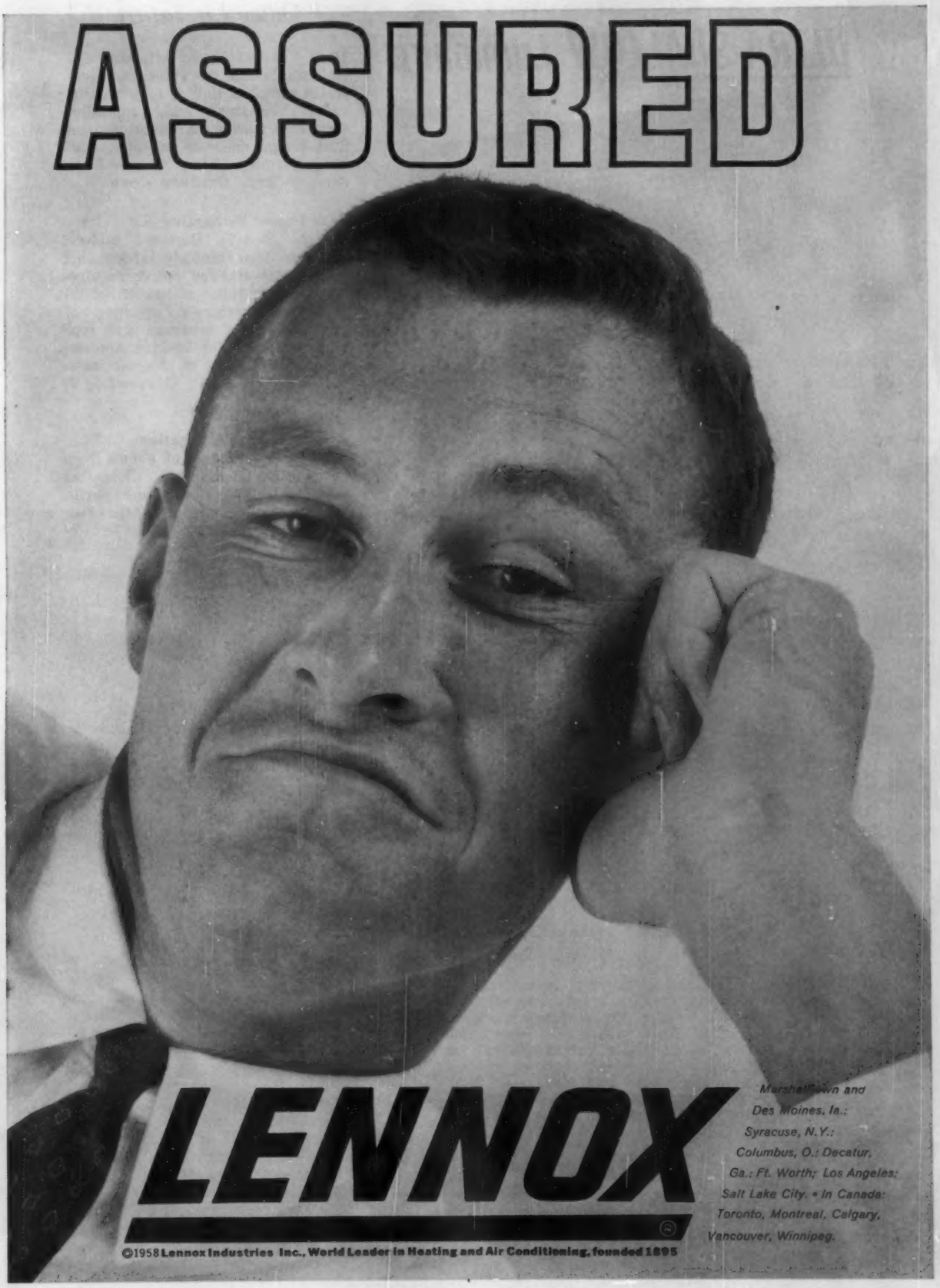
position_____

firm_____

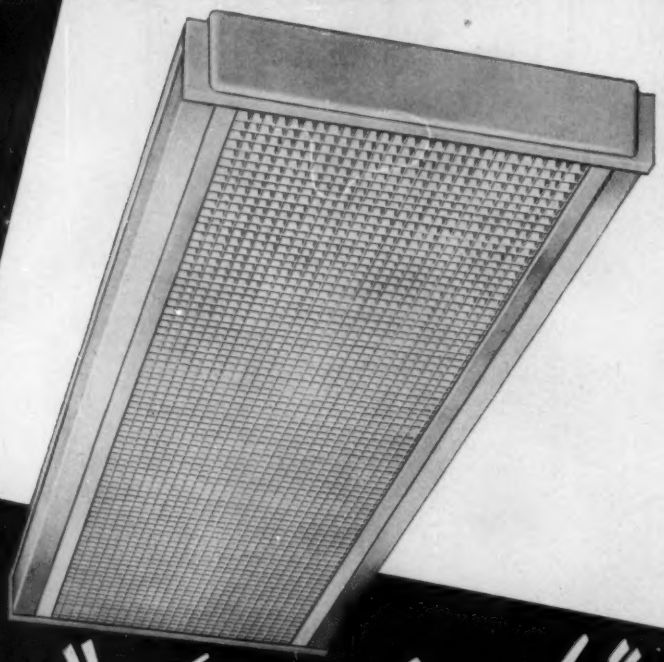
address_____

city_____ zone____ state_____

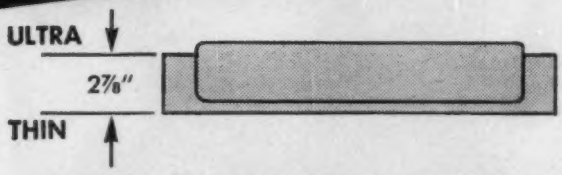

REST
*Lennox offers the world's most complete line of heating and air conditioning equipment. You know that the unit you specify fits the exacting needs of the home, store, office or building you design. You know that the local Lennox Comfort Craftsman, a dealer who's thoroughly trained at the factory by Lennox engineers, installs the unit properly, adjusts it to perfection to assure maximum comfort, trouble-free operation.
SPECIFY
See Sweet's for product facts


ASSURED
LENNOX
Marshalltown and
Des Moines, Ia.:
Syracuse, N.Y.:
Columbus, O.: Decatur,
Ga.: Ft. Worth; Los Angeles;
Salt Lake City. • In Canada:
Toronto, Montreal, Calgary,
Vancouver, Winnipeg.
©1958 Lennox Industries Inc., World Leader in Heating and Air Conditioning, founded 1895

New ULTRA-SHALLOW Luminaire



"Skylark"



Graceful, Ultra-Shallow Styling Creates a Smooth, "New Look" in Lighting Appearance

The Mitchell SKYLARK luminaire has a modern Thin-line appearance combined with unusual high efficiency and low maintenance features. Pleasing, graceful styling, quick, easy, low cost installation features makes this attractive luminaire ideal for use in offices, commercial areas, shopping centers and schools. The SKYLARK is available in 2-lamp and 4-lamp matching units designed to provide abundant glarefree illumination.

MITCHELL

MITCHELL LIGHTING COMPANY DIVISION

COMPCO CORPORATION

1800 N. Spaulding Ave. • Chicago 47, Ill.

Office Literature

High Velocity Valve Attenuators
Bulletin K33-A describes and illustrates complete line of high velocity valve attenuators, with supplementary information on sound control, duct design methods and proper selection of units. 24 pp. *Connor Engineering Corp., Danbury, Conn.**

Sure Power Estimating Kit
(A.I.A. 31-A-6) Enclosed folders, which contain complete information on hospital standby power requirements and hospital generator set installations, assist in selection of proper kilowatt coverage and type of installation for specific applications. *Allis-Chalmers, Engine-Material Handling Div., Milwaukee 1, Wisc.*

Armco Deep Corrugation
Describes advantages of Armco *Deep Corrugation* sheet steel; illustrates comparative safe loads and purlin spacing. 4 pp. *Product Information Service, Armco Steel Corp., 2458 Curtis St., Middletown, Ohio**

Bathmaid Vanity Cabinets
Shows sixteen basic units in the Bath Maid line of vanity cabinets, together with representative combinations and accessories. *Bath Maid, Inc., Andrews, Ind.*

Herman Nelson Cooling Coils
Contains complete coil selection information, construction specifications, dimensional data, surface charts, circuiting diagrams, etc. on *Herman Nelson* direct expansion coils and standard and cleanable water tubes. Capacity ratings and similar pertinent data are given in table and chart form. 52 pp. *Dept. PD, American Air Filter Co., Inc., 215 Central Ave., Louisville, 8, Ky.*

Combination Duct Systems
Catalog 758 describes and illustrates component parts (ducts, junction boxes and fittings) which make up new underfloor electrical distribution system. Dimensional drawings are included. 20 pp. *Walker Brothers, Conshohocken, Pa.*

Transite Air Duct (A.I.A. 30-B-2)
Gives complete information, with diagrams and pictures, on the use of *Transite Air Duct* for perimeter heating and cooling systems. 12 pp. *Johns-Manville, 22 East 40th St., New York 16, N. Y.**

**Additional product information in Sweet's Architectural File, 1958*

more literature on page 308

THE REDWOOD SCHOOL offers much more than a

friendly, home-like environment

for education. It offers true construction

economy, exceptional resistance to fire,

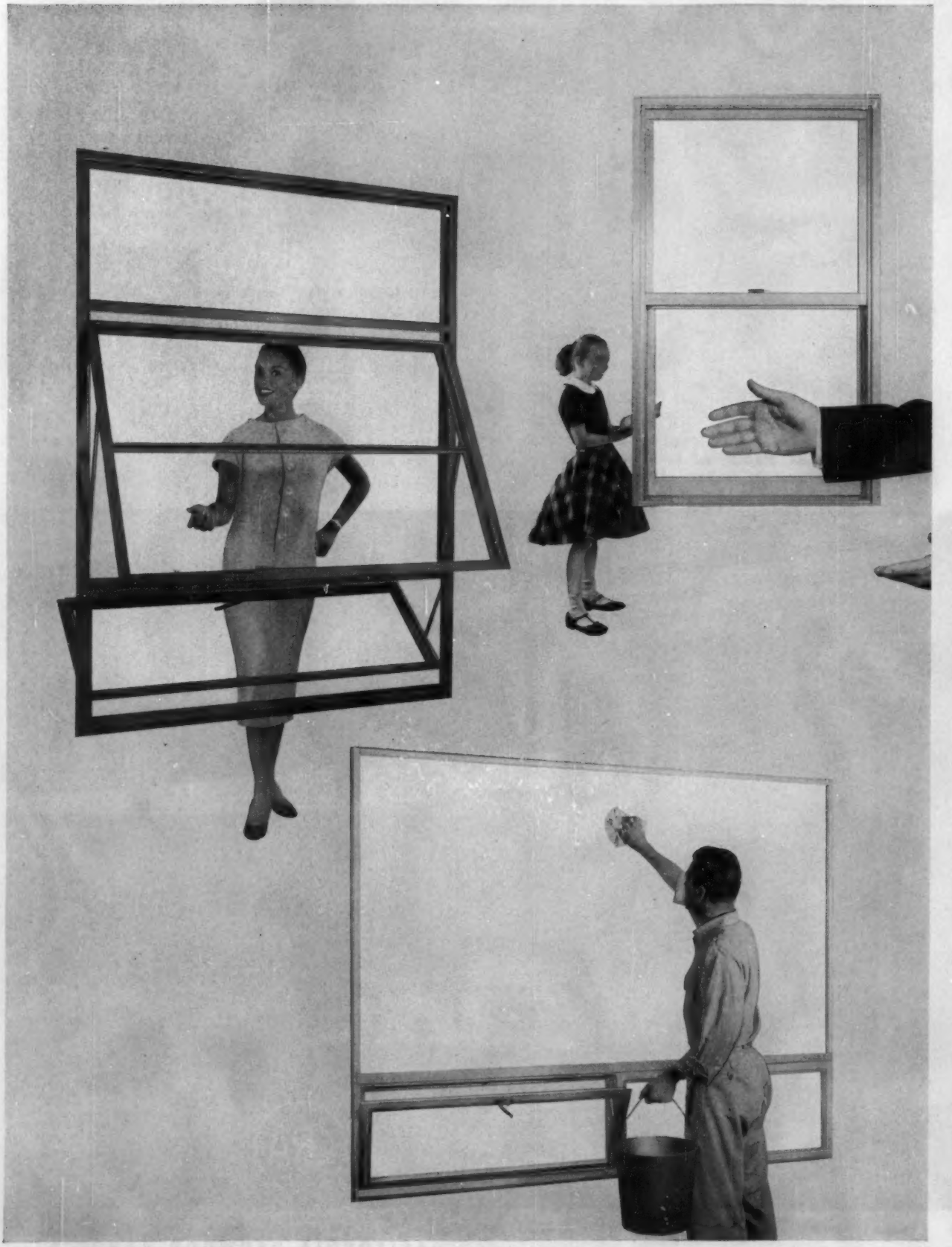
complete adaptability to future expansion

Architect: John Carl Warnecke, AIA

Photo: Rondal Partridge

CALIFORNIA REDWOOD ASSOCIATION

576 Sacramento Street • San Francisco 11, California



Call the Man from Fenestra for

a NEW complete line of MAINTENANCE-FREE ALUMINUM or STEEL WINDOWS

He can give *impartial* answers to your questions about window costs, styles, maintenance and performance—whether you're interested in steel or aluminum. He has no axe to grind for either. Or for one style versus another. Because he has a *complete* line of *both* steel and aluminum windows—the finest for every purpose.

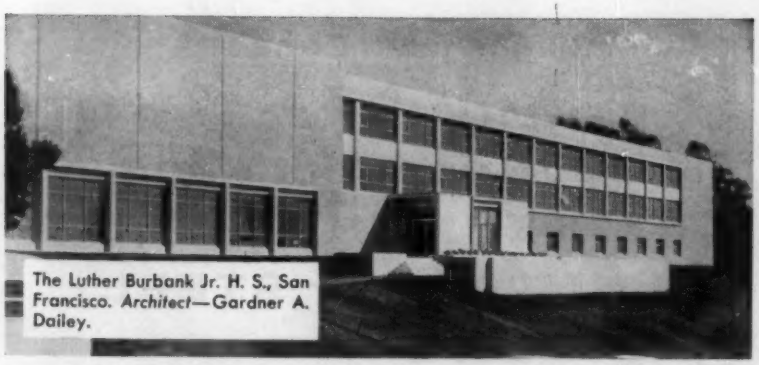
He can show you slim-framed aluminum projected windows for school and office buildings. Sturdy steel pivoted windows for industrial buildings. Double-hung. Casements. Intermediate and commercial. In short, just about every style window you could possibly need . . . in steel *or* aluminum.

These windows require virtually *no maintenance!* The steel windows can have a lifetime, corrosion-resistant *Fenlite* finish that requires no painting. The aluminum windows have a satiny finish that is permanent.

If you need advice or information on any window or maintenance problem, call the Man from *Fenestra*—an *experienced* window specialist. He is listed in the Yellow Pages. Or write to Fenestra Incorporated, Dept. A-AR-11, 2252 East Grand Blvd., Detroit 11, Michigan.

Fenestra
INCORPORATED

YOUR SINGLE SOURCE OF SUPPLY FOR CURTAIN WALLS • DOORS • WINDOWS • BUILDING PANELS



The Luther Burbank Jr. H. S., San Francisco. Architect—Gardner A. Dailey.

Bradley Washfountains in the Luther Burbank School

One of 8 Semi-circular model Bradley Washfountains.

In Shop, too, the students have Washfountain handily located.

Located in corridors near rest-rooms and in manual training shop

Every practical facility was given consideration during the preliminary and final planning of the modern Luther Burbank Junior High School of San Francisco.

Important among the many features are the Bradley Washfountains. For this school, semi-circular models were selected, placed in corridors adjacent to boys' and girls' rest-rooms.

Maximum Sanitation and Economy!

Each of these 54-in. Washfountains serves up to six simultaneously with foot-control of water supply. There are no faucets to contact or manipulate, no chance of spreading infections. Since the bowl is self-flushing, there is never any residue from previous users . . . convenience, cleanliness, economy and maximum sanitation.

And you can provide more washing facilities in less space, reduce water consumption and installation costs. Each of these 6-person Washfountains requires only three piping connections, hot and cold water and drain.

For your new or present building

If you are remodeling, planning additions or new buildings—our Catalog 5601 has complete data and floor plans to help you. Send for a copy—no obligation. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan St., Milwaukee 1, Wis.

BRADLEY washfountains

Distributed Through Plumbing Wholesalers

A copy of Cat. 5601 mailed on request.

Office Literature

Castle Engineered Sterilization
Discusses steam, dry heat and automatic gas techniques of industrial sterilization, and describes a new service designed to assist in selecting and establishing industrial sterilization processes for specific needs. 12 pp. *Wilmot Castle Co., 1923 East Henrietta Rd., Rochester, N. Y.**

Prime Window Catalog
Gives full information on available types and sizes in Capitol line of prime windows and rolling glass doors; with details, cross sections and specifications. 22 pp. *Capitol Products Co., Mechanicsburg, Pa.**

Instant-Lok Fact File
Contains comprehensive technical bulletins describing each type of *Instant-Lok* contact cement, its properties, recommended bonding techniques and handling. A general review of contact cements discusses types of materials that can be bonded, methods for combining them, preparation of surfaces, and application procedures. *Structural Products Div., National Starch Products Inc., 750 Third Ave., New York, N. Y.*

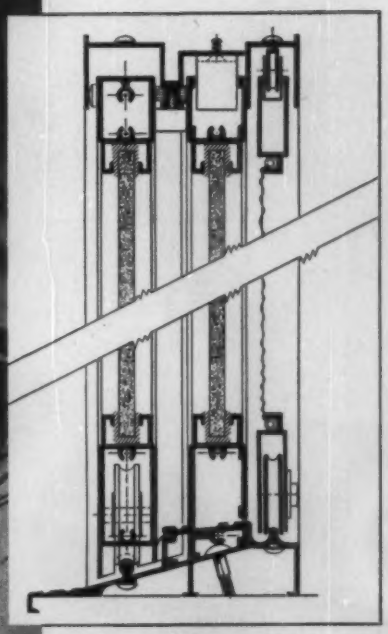
Metal-Clad Switchgear
Bulletin GEA-5664E provides detailed information on the operation. characteristics and application of complete line of indoor and outdoor G-E *Metal-clad* switchgear. 40 pp. *General Electric Co., Schenectady 5, N. Y.**

Electrical Distribution
. . . *and Control Equipment* covers 16 types of equipment, with information on operation, installation, applications, ratings, appearance, safety features, available accessories and similar technical and general data. Bulletin S, 12 pp. *Federal Pacific Electric Co., 50 Paris St., Newark 1, N. J.**

Playground Equipment
. . . *and Athletic Field Equipment* (A.I.A. 35-F-5) catalogues and gives specifications for a full line of equipment for playgrounds and athletic fields. A price list is included. 32 pp. *Jamison Mfg. Co., 8800 S. Mettler St., Los Angeles 3, Calif.*

Literature Requested
Wm. Henley Deitrick and Associates, 206 Davis Bldg., Wilson, N. C.; Bosworth C. Beckwith, Architect in Charge

**Additional product information in Sweet's Architectural File, 1958*



Sliding glass panels are equipped with nylon sheaves which roll smoothly and silently along nylon tracks on the sill. All glass panels are glazed with neoprene gaskets. In addition to their outstanding weather resistance, these gaskets have a low permanent compression set which enables them to maintain sealing pressure in spite of dimensional changes and deflection of the glass panels.

GLASS PANELS GLAZED WITH NEOPRENE LET NATURE IN—KEEP WEATHER OUT

This sliding door unit by Arcadia does more than bring the outdoors indoors. It also makes it easily accessible through a sliding glass panel that moves smoothly and silently at the touch of a finger. Available in various sizes, the unit forms a weathertight glass wall that is easily installed and requires little maintenance.

An important feature of Arcadia's Series 102 door is a neoprene sealing gasket which permits both the fixed and sliding glass panels to be glazed either at the factory or on the job. This preformed gasket snaps on around the periphery of the glass, then panel framing members are driven on and interlocked. This glazing operation is performed quickly and neatly. Neoprene was chosen by Arcadia because it combines the resilience and resistance to compression set necessary for an effective seal with outstanding weather and sunlight resistance.

Neoprene gaskets offer similar advantages as seals for curtain-wall panels. Send the coupon today for full details plus a list of neoprene gasketing suppliers.

DU PONT
REG. U. S. PAT. OFF.

NEOPRENE

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Dept. AR-11
Wilmington 98, Delaware

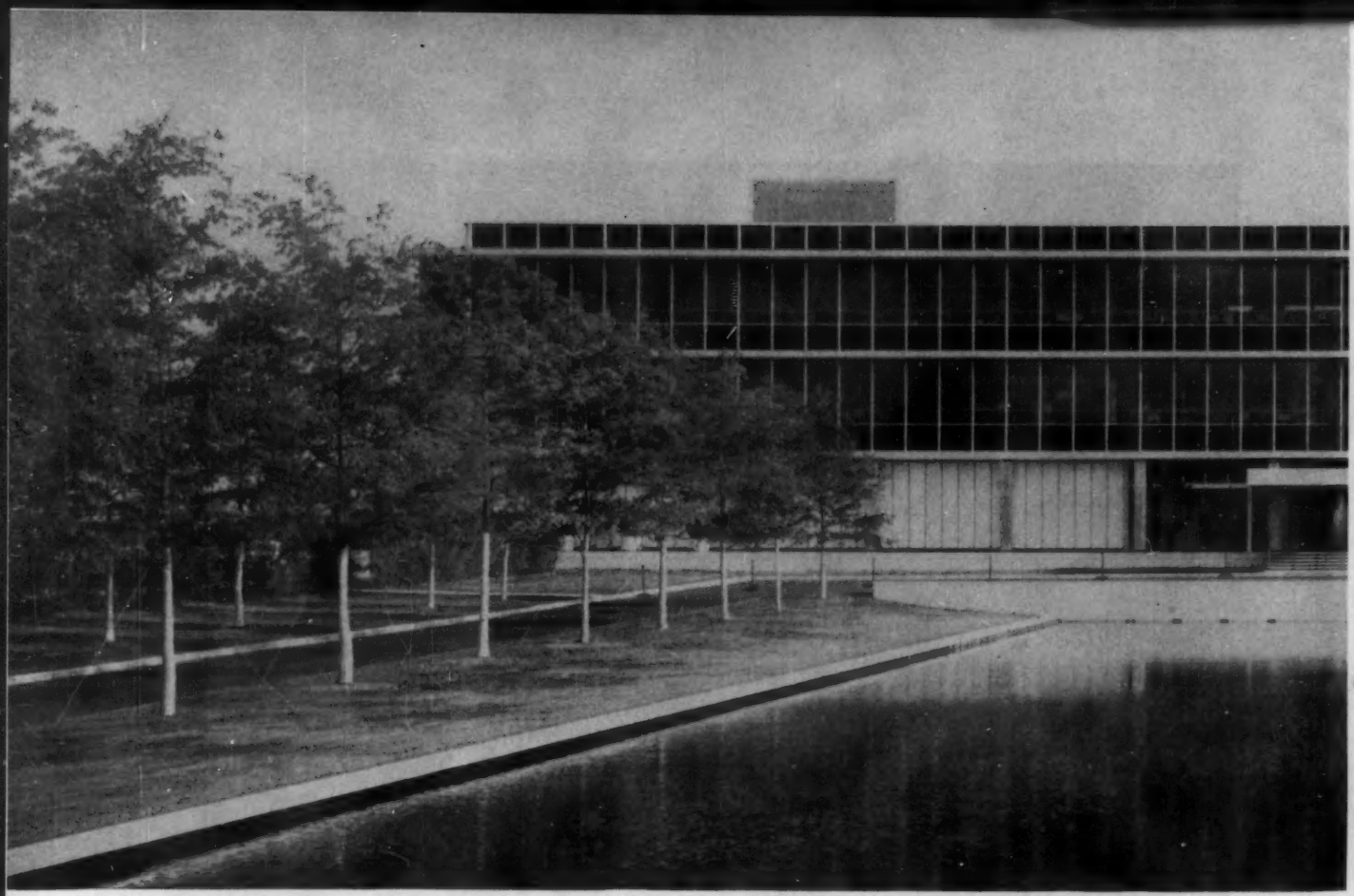
Please send a list of neoprene gasketing suppliers and a copy of THE DU PONT ELASTOMERS.

Name_____ Title_____

Firm_____

Address_____

City_____ State_____



■ Maximum flexibility in space utilization is achieved at Reynolds through partitions that easily can be moved to expand or decrease area sizes. This can be accomplished without making costly changes in the lighting system. The Curtis wall-to-wall ceiling of light provides 80 ft. candles of maintained illumination. Attractive Hexcel Honeylite aluminum diffusers complement the inviting decor.

How a special Curtis Lighting system saved Reynolds Metals $50,000 . . .

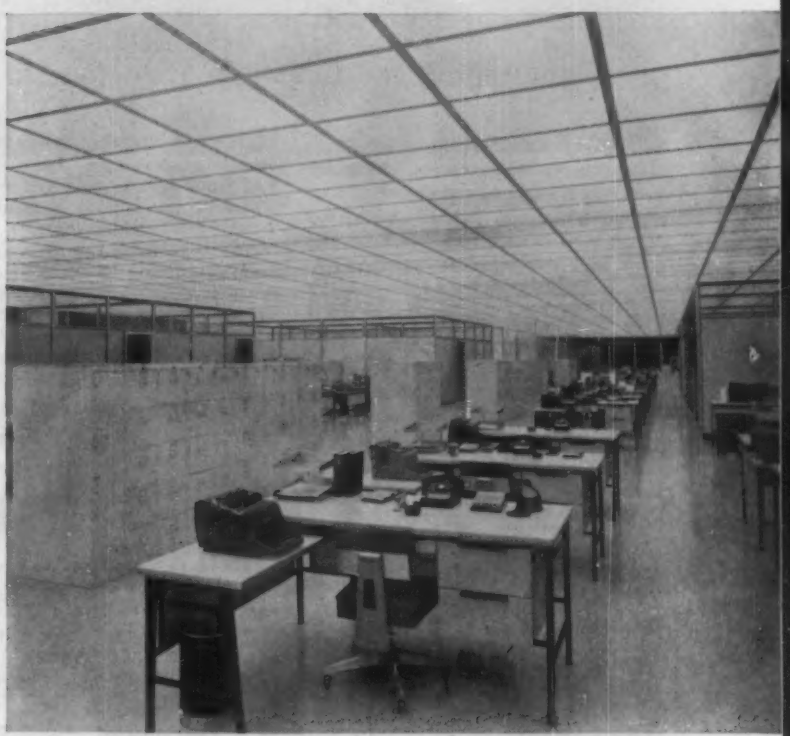
■ Here is the new home of Reynolds Metals Company, Richmond, Virginia. It is dramatically placed at the end of a reflecting pool bordered by willow oaks. The classic beauty of the building is enhanced by this unusual setting. Architect: Skidmore, Owings & Merrill; Consulting Engineer: Ebasco Services, Inc.

Unique all-aluminum folding grids in 100 sq. ft. units cut installation time 8,000 man hours . . . provided wall-to-wall illumination with low brightness quality

Installing a lighting system so flexible it can adapt to any internal building change without relocation is quite a feat. But when that is accomplished at important savings it calls for exceptional engineering ingenuity. That's what Curtis Visioneers achieved with a special custom-made aluminum folding grid system at Reynolds Metals Company, Richmond, Va. The unique folding "packages" made it possible to install 100 sq. ft. of lighting at one time. Result: a saving to Reynolds of an estimated 8,000 man hours, or approximately $50,000. A wall-to-wall ceiling of light was created with a beautiful satiny aluminum lighting tone of low brightness quality. Over-all ceiling illumination solved the problem of how to obtain stationary lighting for a 100,000 sq. ft. area, even though wall partitions would be moved in the future. Write today for the name and address of the Curtis Visioneer in the principal city nearest you. Curtis Lighting, Inc., 6135 West 65th St., Chicago 38, Ill. In Canada: 195 Wicksteed Ave., Toronto 17, Canada.

CURTIS

Visioneers in Planned Lighting

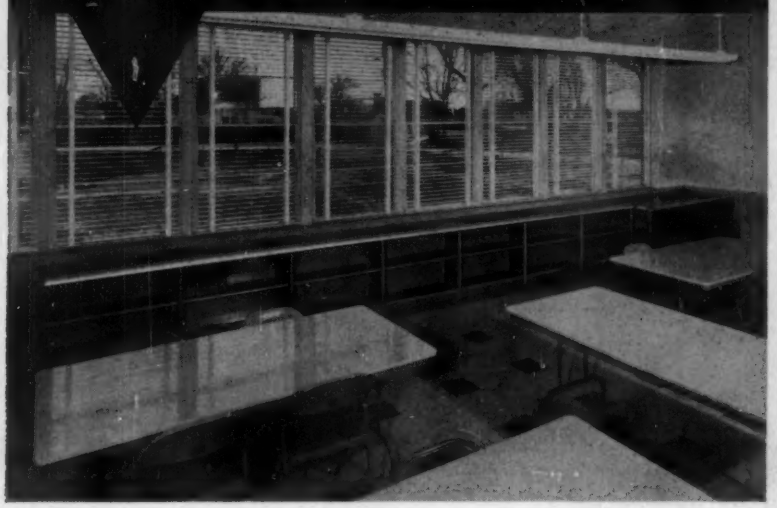


■ Large office areas are as effectively illuminated as small areas with a high degree of visual comfort assured. In this special Curtis grid installation, aluminum materials were used throughout. Maintenance features of the system include ease of relamping, ready access to wiring, and simple replacement of the ballasts.

Complete heating and ventilating

Classroom Comfort

PLUS TRIPLE ECONOMY



The **NORMAN** Complete Individual Schoolroom Package Provides Gas-Fired Heating...Fresh-Air Ventilation... plus Important Economies Right From the Start:

ECONOMY OF INSTALLATION . . . no expensive boiler rooms, chimneys, tunnels or costly revamping of central system. Pre-wired, partially-assembled Norman Systems are installed quickly, room by room—important economy in school expansion.

ECONOMY OF OPERATION . . . maintains uniform temperature without wasting fuel . . . supplies heat only when needed . . . ventilates automatically. Individual systems—no need to heat entire school for use of few rooms.

ECONOMY OF MAINTENANCE . . . Sturdy construction, finest materials and latest A.G.A. approved controls — standard to industry — assures long, trouble-free performance.

Versatile Norman Schoolroom Heating and Ventilating Systems fit any plan . . . Choice of 85,000 or 100,000 BTU/hr. inputs; Util-i-Duct Bookshelf (with or without sliding doors) or thin Wall-i-Duct comfort distribution sections.

HEAT AND VENTILATE YOUR SCHOOL WITH NORMAN SCHOOLROOM SYSTEMS . . . COMPLETE COMFORT PLUS TRIPLE ECONOMY

Photo Illustrates, Mingo School Addition, Tulsa, Okla.; Architect: Koberling and Brandborg A.I.A., Tulsa, Okla.; Mechanical Contractor: Palmer Plumbing and Heating Co., Tulsa, Okla.; Mechanical Sub-Contractor: Sand Springs Sheet Metal Co., Sand Springs, Okla.

Norman® products company

NORMAN PRODUCTS CO.
1152 Chesapeake Ave., Columbus 12, Ohio
We want to learn more about Norman Products for School Comfort. Please send complete information to:

NAME_____

COMPANY NAME_____

ADDRESS_____

CITY_____ ZONE___ STATE_____

See Sweet's Arch. File 30h/No, American Sch. and Univ. Annual C-1/No

A Record Special Report

continued from page 13

mall to the north of Osgoode Hall could be readily achieved when the Armouries is replaced by the proposed Court House.

The interior design and arrangement of the building are of great importance. Referring to the Public Access Areas, those parts of the building which will be most frequented by the public, the competition conditions state, "This is the citizen's first impression of the City Hall. Without extravagance it should be impressive." The placing of the Council Chamber is also of great significance. For this the majority favoured the idea of emphasizing its location as a symbol of democratic government. In this way one aspect of the special nature of the City Hall might be brought out.

The functional organization of the City Hall and its structural economy were given most careful consideration. On this score, however, there were many entries that were entirely adequate. Differences between schemes were much greater in other aspects of the design and the majority made its selection of the winner from a careful weighing of all the factors involved.

General Description of the Winning Design

The winning design is a most imaginative and original concept. The southern part of the site is devoted to the Square and north of this is the building group composed of three main elements: a broad, low horizontal building above which rises a pair of tall curved towers and, nestled between the towers and immediately above the horizontal building, a structure whose upper surface is a low, broad dome and whose under surface is an inverted reflection of the upper side.

The total composition clearly and dramatically expresses the major functions of civic government. Opening directly from the Square, the low building contains all those activities in which members of the public are likely to be interested. The tall towers contain office space, repeated floor by floor. They are carefully placed and curved so that they focus inwards upon the domed structure. This structure rests at the evident center of the composition and contains the center of government, the Council Chamber and executive suites.

Viewed from close at hand the building stands out as a symbol in

Prospective buyers often judge a home on the merits of a well-designed kitchen. Photo courtesy The Lusk Corporation
Western Pine Region woods offer a selling *extra* . . . they create an immediate feeling of functional beauty and economy.

For universal sales appeal Build with Western Pine Region woods

Women exercise a vital influence in the purchase of a new home. But the man must have a good reason for "paying the bills." Western Pine Region woods appeal to both men and women. They give houses a strong selling extra.

She will like the warmth, dignity, ease of maintenance, and natural beauty of Western Pine Region woods. *He* will appreciate the economy and lasting quality of these distinctive woods.

Give the houses you build the customer appeal of Western Pine Region woods. Their attractive pattern and workability make them suitable for paneling, moulding and woodwork. Their stability and durability make them equally suited for framing, siding, sheathing, sub-flooring and roof decking.

For your next job, grade-stamped lumber is available from mills of the Western Pine Region through your local dealer. For more information write to Western Pine Association, Dept. 315-U, Yeon Bldg., Portland 4, Oregon.

FACTS ABOUT WESTERN PINE REGION WOODS

- straight grained
- dimensionally stable
- easily worked
- economical to handle and install
- excellent nail-holding ability
- take paint or stain with ease
- wide range of grades
- ten species

WPA

Western Pine Association

member mills manufacture these woods to high standards of seasoning, grading and measurement

Idaho White Pine • Ponderosa Pine • Sugar Pine White Fir • Incense Cedar • Douglas Fir • Larch Red Cedar • Lodgepole Pine • Engelmann Spruce

Today's Western Pine Tree Farming Guarantees Lumber Tomorrow

AmBridge Modular Schools

COUPON: Clip and send today for complete description of AmBridge Modular School Components.

AmBridge Modular School Components
Room 1831D
American Bridge Division
United States Steel
Pittsburgh 30, Pennsylvania

Name.....

Title.....

Address.....State.....

City.....

Proud new school:

American Bridge Division, U. S. Steel—with over 50 years' experience in precision steel fabrication and erection—presents an integrated group of steel modular components for high-quality school buildings. Their flexibility, architectural freedom and ease of design make USS AmBridge Modular School Components big news and *good* news for architects.

Quality. Every AmBridge Modular School Component has been tried and proven architecturally. Stainless steel, porcelainized or baked enamel exterior curtain walls and interior steel partitions are available in a wide range of pleasing colors, permitting great latitude for aesthetic consideration.

The structural components include AmBridge Standard and Longspan Steel Joists, steel roof deck, and tubular steel columns, assuring the great structural stability proved in thousands of other buildings.

Construction and design speed. Every AmBridge Modular School Component is fabricated to fit readily and precisely, making it possible to construct in weeks a beautiful building that will serve a lifetime. Furthermore, the modular design and speed of construction greatly reduce the architect's design time and site supervision.

Design freedom. The flexibility of the structural frame, the multiplicity of components and the great variety of panel colors and finishes give the designer great latitude for creativity. Modern architectural features can be freely expressed. USS AmBridge Modular School Components blend well with existing architectural atmosphere and other building materials which you may wish to use to complement the steel components. Whether you are designing a new school or an addition, attractive AmBridge Modular School Components will reflect the architectural character you desire.

American Bridge specialists will be glad to discuss with you the specific application of these time-saving modular steel components.

USS and AmBridge are registered trademarks

American Bridge Division of United States Steel

Designed by J. Trevor Guy, A.I.A., Cleveland, Ohio.

THE PICTURES:

EARLY BIRDS—Left: This picture was taken in August. On September 2, the boys probably weren't nearly so anxious to get inside their new AmBridge Modular School. But, once in, they'll find that lots of natural light, color and modern beauty will help make learning a little easier for them.

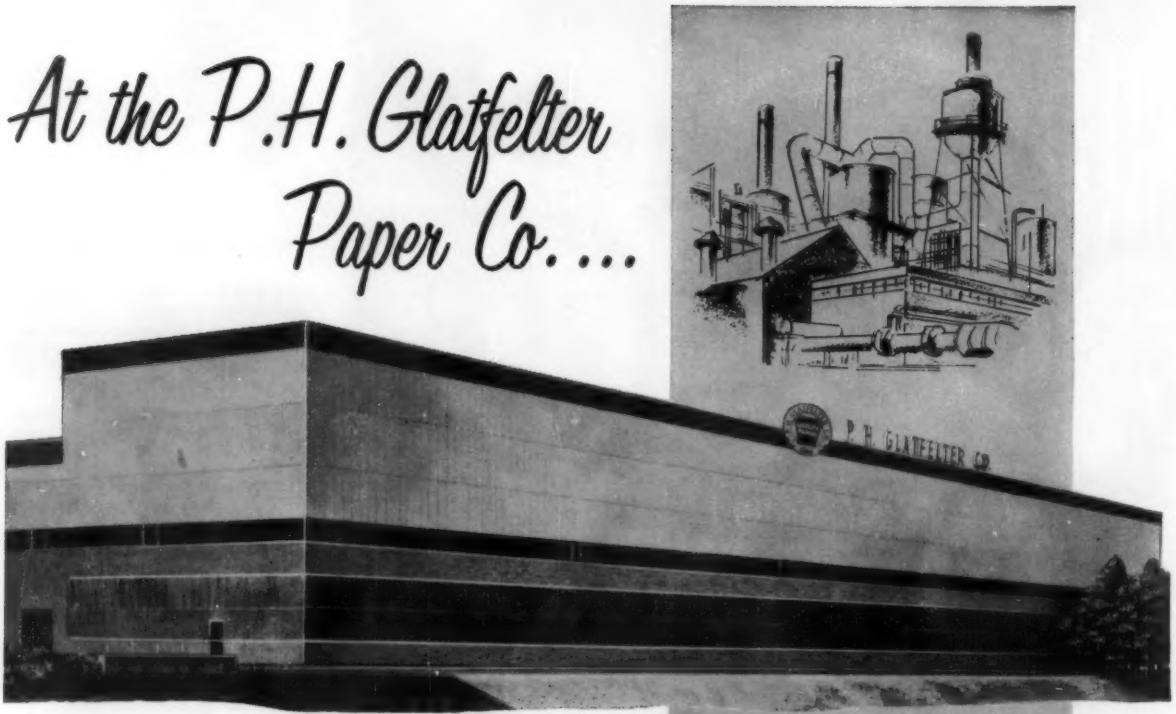
A IS FOR ATTRACTIVE—Below left: The beauty of this AmBridge Modular School will always remain because the weather-tight, vermin-proof walls are made of durable steel. Permanent panels eliminate extensive refinishing and frequent cleaning. Modular construction makes expansion of this school a simple matter.

B IS FOR BRIGHT—Below center: A comfortable teacher's room—typical of the auxiliary features easily incorporated in any USS AmBridge Modular School. Interiors come in 16 colors.

C IS FOR CHEERFUL—Below right: Everyday is a bright day in this pleasant, well-lighted classroom . . . a natural environment for study. Since steel partitions don't support roof, the room size can be changed easily at any later date.

a solution for you?

At the P.H. Glatfelter Paper Co....



AN AIR of MODERN DESIGN with dorex®
Air Purification Equipment

The P.H. Glatfelter Company's new paper mill in Spring Grove, Penna., is an excellent physical expression of a growing trend in industrial architectural planning—modern exterior beauty matched by modern interior function.

Here, seventy-eight modern, soundly engineered Dorex Air Purification Cells were used to purify outside air and protect electrical equipment against destructive atmospheric properties.

Dorex equipment is specified and installed by leading architects and engineers because of matchless efficiency and the substantial savings on original investment and operating costs it permits. With each installation Dorex assumes *complete* responsibility for economical, efficient operation. Choose Dorex . . . you'll find that prompt, experienced personal service is an important Connor product.

CONNOR... for Constant Comfort Conditions

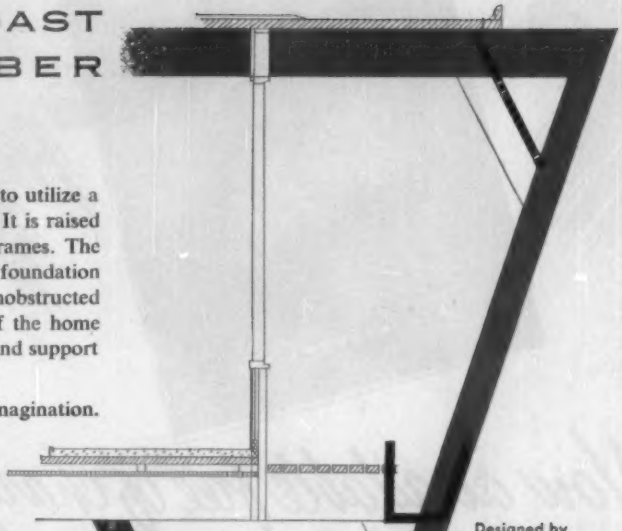
Write for "Air Conservation Engineering"... the authoritative text on air purification.

CONNOR ENGINEERING CORPORATION

82 SHELTER ROCK ROAD • DANBURY • CONNECTICUT

CONNOR ENGINEERING CORPORATION dorex® air recovery

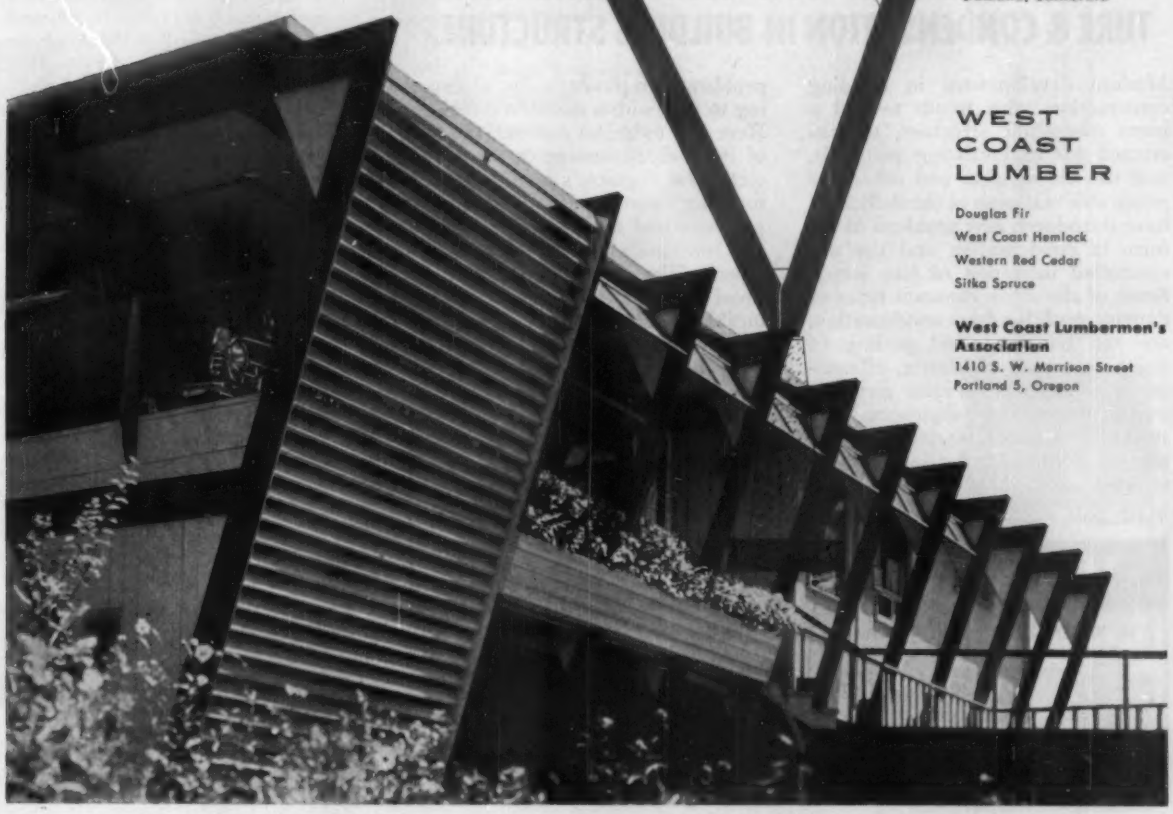
MODERN DESIGN USES WEST COAST LUMBER



Highly functional, this modern home was designed to utilize a steep hillside for maximum view at minimum cost. It is raised above the slope and supported by 11 rigid bent frames. The home's design eliminated grading, retaining wall foundation and drainage expenses . . . yet allows a completely unobstructed view to the west. The frames form the skeleton of the home while frame extensions, exposed, become the posts and support members. Frames were fabricated on the job.

When you design with wood your only limit is imagination. Function, interest, economy and adaptability are just a few of the plus factors in lumber construction. For dependable lumber, specify the West Coast species.

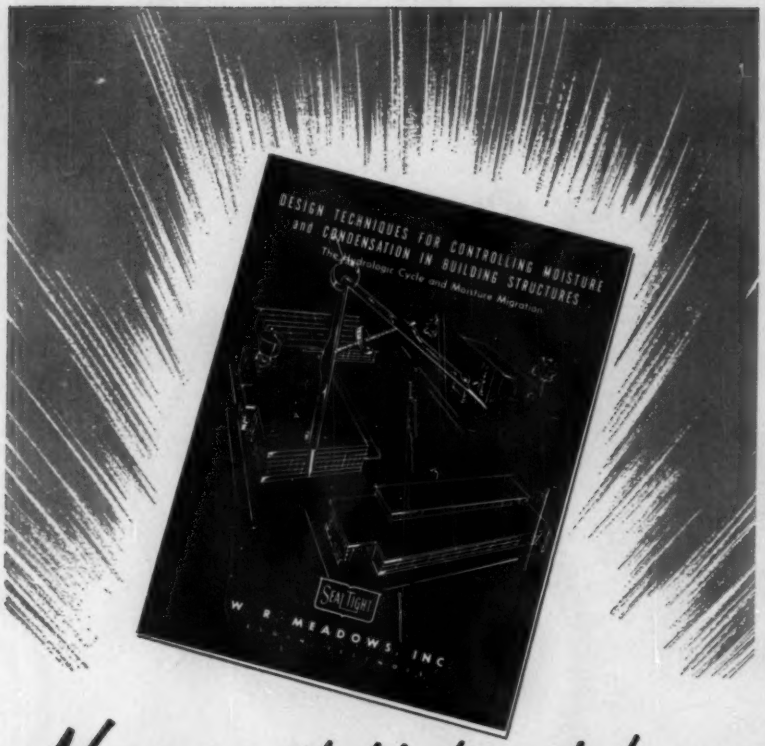
Designed by
Noris M. Gaddis, A.I.A.
Oakland, California



WEST COAST LUMBER

Douglas Fir
West Coast Hemlock
Western Red Cedar
Sitka Spruce

West Coast Lumbermen's Association
1410 S. W. Morrison Street
Portland 5, Oregon


DESIGN TECHNIQUES FOR CONTROLLING MOISTURE and CONDENSATION IN BUILDING STRUCTURES
The Hydrologic Cycle and Moisture Migration
SEAL TIGHT
W. R. MEADOWS, INC.

Now available free of charge

"DESIGN TECHNIQUES FOR CONTROLLING MOISTURE & CONDENSATION IN BUILDING STRUCTURES"

Modern developments in building construction, with trends toward a more monolithic structure, the increased use of insulating materials, and the use of glass and other impermeable materials in the shell area, have introduced new problems in the form of condensation and the uncontrolled migration of free water. Some of the more common types of damage resulting from condensation, are the blistering and peeling of paint, loosening of plaster, efflorescence of masonry, interior dirt patterns, mechanical destruction of structural elements, warping and rotting of floors and the incursion of termites.

Many past studies have treated vapor problems symptomatically, attempting to deal with a manifest difficulty. Here is a technical manual, the first of its kind, explaining in the architect's and engineer's own language, moisture movement, condensation problems and modern control methods for moisture and vapor movements. The manual gives factual proof of the effectiveness of impermeable materials in restraining moisture migration.

This book, now available free of charge through the courtesy of W. R. Meadows, Inc., has been specifically prepared to assist architects and engineers in protecting structures from migration of water in its various forms. Write today for your copy.

W. R. MEADOWS, Inc.

W. R. MEADOWS, INC., 4 KIMBALL ST., ELGIN, ILLINOIS DEPT. 4
Gentlemen,
☐ Please send, without obligation on my part, a copy of the "DESIGN TECHNIQUES" Manual.

NAME FIRM
ADDRESS
CITY STATE

the urban landscape, clear in all its parts. From the distance the curving forms of the towers would constitute a feature of the Toronto skyline, clearly different from all other buildings.

The roof of the horizontal building constitutes an upper plaza, the inner part contained within the curved towers, the outer part overlooking the Square. The diagonally curved southern wall of this building forcefully defines the Square at ground level. At the western end the sweep of the wall carries on to the site of the proposed Court House. At the eastern end it leads to the present City Hall, throwing this fine building into relief. Reflecting the curve there is an emphasis on the continuity of space on the south side of the Square and in front of Osgoode Hall, calling for a fine façade on the south side of Queen Street.

Comment on the Winning Scheme

The majority is convinced that the basic concept of the winning design has great strength. Certain features, it is felt, could be modified with advantage and comments on these, as well as many fine features, are made in this section in the hope that they may be of value to the winner, and the City, in developing the final design. The majority feels certain that because of the strength and soundness of the proposal such modifications could be readily accommodated without detracting from its excellence. A great deal of detail remains to be worked out after consultations in Toronto and this should afford the opportunity to consider the various points raised.

The Civic Square has been carefully shaped in its broad lines and is enhanced by the enclosing arcade which both helps give it definition and provides shelter to the pedestrian. The pool has been well placed on the axis of the present City Hall. However, a great deal of the landscaping, trees and surface feature detail must be worked out to provide the necessary human interest, and it is rather unfortunate that the winner has developed this aspect so little at this stage.

The main public hall which the citizen enters whenever he goes to City Hall is a magnificent round room with a great circular rotunda cutting upwards through three floors to a skylight above. Around this room stretches a long counter where all business can be transacted, a very

. . . another achievement in curtain-wall!

Municipal Center: Flint, Michigan
Architects:
H. E. Beyster & Associates
Detroit, Michigan
Contractor:
Sorensen Gross Construction Co.
Flint, Michigan

These five integrated buildings required 60,000 sq. ft. of modular wall panels, completely engineered and erected by Knapp. Knapp furnished insulated panels, louvers, doors, frames, vestibules, aluminum windows, steel detention windows, sun canopies, soffits, special interior aluminum enclosures, glass and glazing.

Jail area in police building exemplifies Knapp's special engineering capabilities. There, steel detention windows were installed within the panels to preserve overall design unity.

KNAPP

aluminum ■ *steel*

modular ■ wall panels

KNAPP BROTHERS MANUFACTURING CO., Cincinnati 36, Ohio

Please send me specifications and details of Knapp modular wall panel systems.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

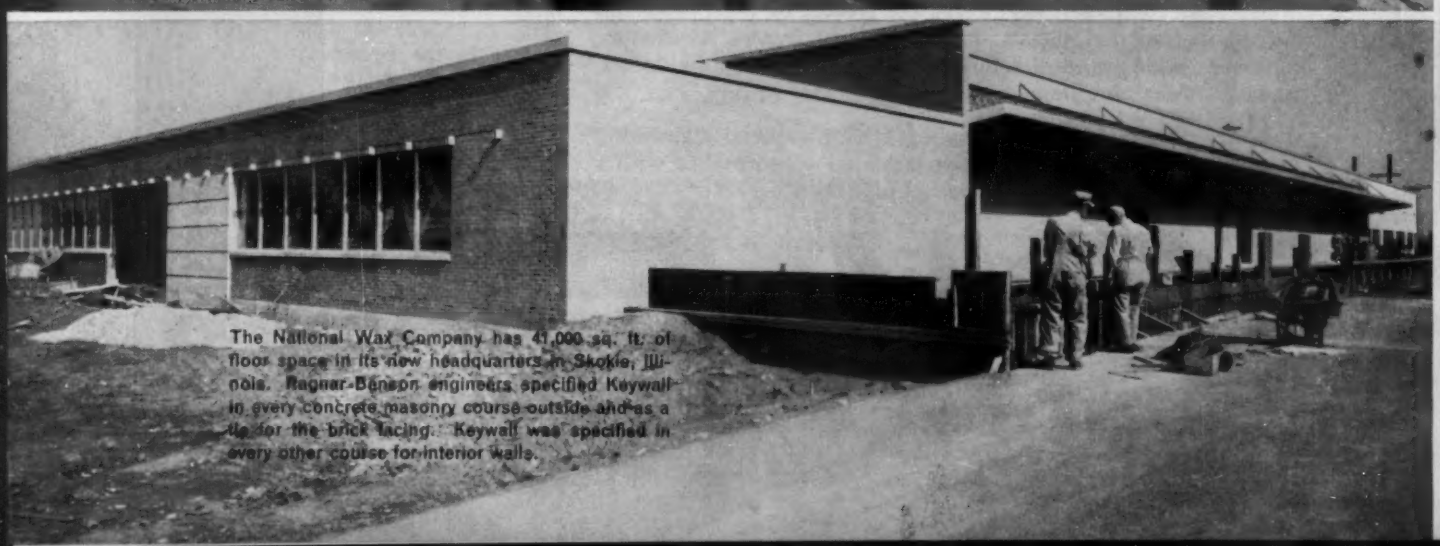
"my masons like

KEYWALL

GALVANIZED MASONRY JOINT REINFORCEMENT

best"

That's the conclusion of



The National Wax Company has 41,000 sq. ft. of floor space in its new headquarters in Skokie, Illinois. Ragnar-Benson engineers specified Keywall in every concrete masonry course outside and as a tie for the brick facing. Keywall was specified in every other course for interior walls.

When partition walls are to be built later, Keywall may be cut to extra length to serve as a wall tie. Then Keywall ends may be moved out of the way until needed. Smooth edges of Keywall won't cut or tear hands.

Note how readily Keywall adjusts to variation in brick and masonry courses. Here it serves as tie between brick and block.

Joe Alberti, masonry superintendent, Ragnar Benson, Inc., Chicago Engineers-Builders

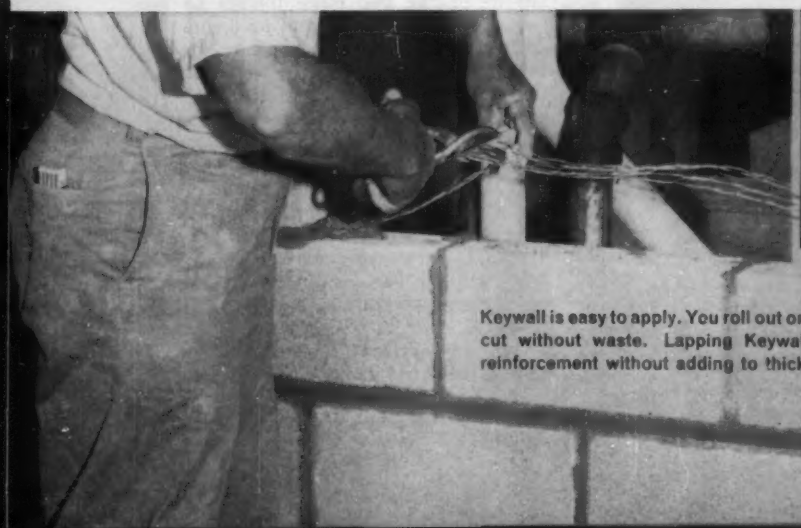
Mr. Alberti, as well as his masons, is enthusiastic about this new joint reinforcement. Ask one, Joe Wittye, for his opinion, "I'd use Keywall in my own home." Then ask Ragnar Benson designers, "We're specifying Keywall wherever masonry reinforcement is needed."

You get the same enthusiastic agreement whenever you go on a job where Keywall was used. Architects have seen its superior ability to reduce shrinkage cracks. Its design assures full embedment and strong bond. Masons prefer to use Keywall. They use it as specified. Keywall takes little space on the scaffold. Unrolls in place on the wall. Cuts easily. Installation is fast—without waste. No wonder that on job after job, builders are switching to Keywall.

KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

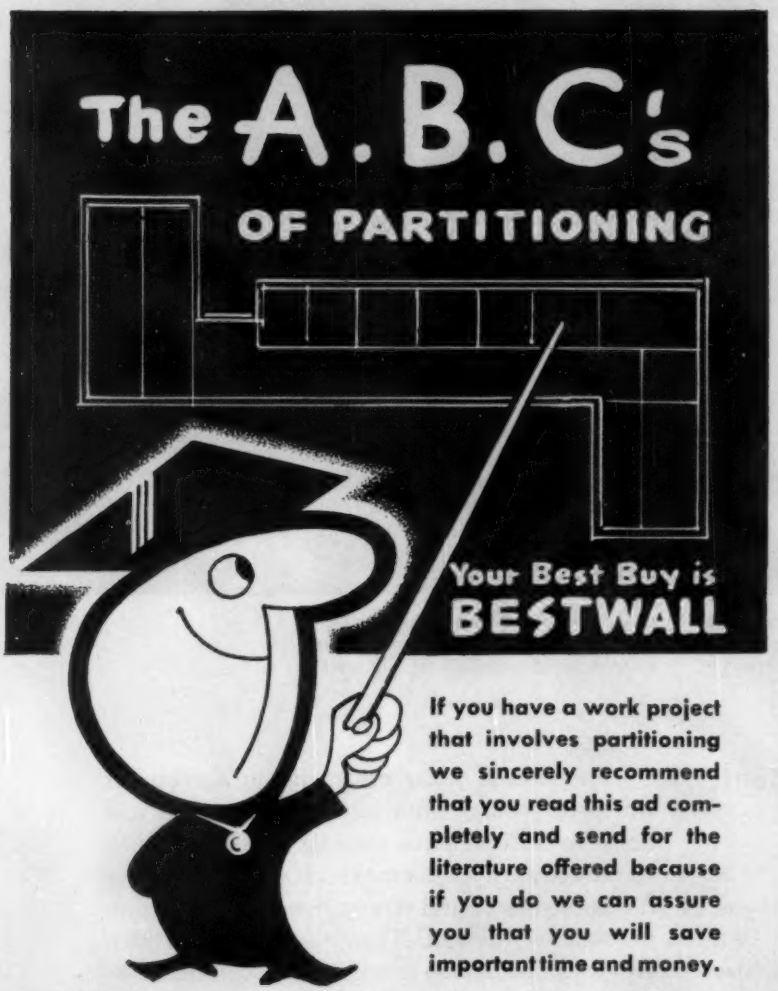
Keycorner • Keybead • Keymesh • Keywall • Welded Wire Fabric • Nails • Non-Climbable Fence



architects:

Because masons like to use Keywall, they apply it as you specify. Keywall is adding strength and reducing cracks—at lower cost—in buildings all over the country.

Keywall is easy to apply. You roll out only as much as needed, cut without waste. Lapping Keywall gives uninterrupted reinforcement without adding to thickness of mortar joints.



If you have a work project that involves partitioning we sincerely recommend that you read this ad completely and send for the literature offered because if you do we can assure you that you will save important time and money.

These savings for you and your clients are based on use of the unique Bestwall Hummer Systems of drywall construction. Of the three systems available . . . "A modified," "B modified," and "C" . . . there is one with a solution to any particular partition problem you may have.

The Bestwall Hummer Systems include one, two or three hour fire resistive non-load bearing partitions: a special, and extremely economical movable partition; factory laminated or field fabricated partition systems; smooth finish or panel effect partitions.

The Bestwall Hummer Systems of partitioning are *special*. They are a service of the Bestwall Gypsum Company designed to give Bestwall customers the finest quality partitions at the lowest possible cost. Space in this ad does not permit giving you all the facts. Therefore, we suggest that if you are going to build partitions you send for our new Hummer "C" System Brochure outlining the newest, best and most economical approach to partitioning.

Sold by Bestwall Certain-teed Sales Corp. offices in all principal cities.

FIREPROOF GYPSUM BESTWALL® BUILDING PRODUCTS

Bestwall Certain-teed Sales Corp., Dept. ARC
120 E. Lancaster Ave.
Ardmore, Pa.

Gentlemen:

Please send me your new Hummer "C" System Brochure

Name.....
Company.....
Address.....
City.....Zone.....State.....

BESTWALL GYPSUM CO., ARDMORE, PA.

efficient arrangement within a handsome room.

Above this main floor is a mezzanine devoted to traffic circulation and above this again is a second mezzanine with government areas which have to be close to the Council Chamber. This achieves a very satisfactory relationship between the different areas. Generally this space is efficiently used, a most important consideration in view of there being almost half the total floor area in this horizontal part of the building. However, there appears to be a surplus of vertical circulation facilities and this should be reconsidered.

The Council Chamber and related executive offices are well located in the center of the building, but the arrangement of the offices could well be restudied after consultation with those familiar with their operation. They have the potential of a very interesting series of rooms.

The two office towers are superb esthetically, their carefully shaped and related curves achieving a balance and total effect of strength and dignity. They also offer many fine views from the inner walls. Undoubtedly these advantages have been achieved at some expense and it is hoped that the architect will do whatever he can to reduce costs. It is suggested that both space and structural economies be sought. The architect is to be commended for the substantial saving in space already made between the preliminary and final competitions. Further analysis of plans might produce additional savings. Structurally the greatest economy which, it appears, could readily be pursued would be in devising ways of reducing the size of the cantilever at present shown. In reviewing plans for the towers the placing of departments to ensure their most efficient relationship might also be reviewed.

The architect has switched the positions of the two office towers between the preliminary and final competitions, possibly influenced by certain remarks of the Jury following the preliminary competition. There are, however, other factors to be considered and the majority has some reservations about this change. Not only did the earlier arrangement offer a simpler and more economical air conditioning problem but a wider knowledge of development of the district around the Square also indicates some advantage in the earlier proposal.

Any adjustments in these regards should leave the basic concept strong and clear and it is the majority's view that this would be possible. The City

AS A RULE,

SCHOOL-BUILDING WITH

INSULROCK

ADDS UP TO

SIZABLE SAVINGS

Weather-resistant, good-looking INSULROCK used as roof decking provides ceiling for corridor outside classrooms of new Hillcrest High School, Simpsonville, S. C. Architect: Wm. Freeman & Associates; Contractor: Triangle Construction Company, both Greenville, S. C.

Extra schoolrooms may cost nothing extra!

Insulrock Building Slabs, used for load-bearing, long-wearing, incombustible roof decks, sometimes cut building costs enough—by costing much less to buy, apply, maintain—to help build extra rooms without extra appropriations.

Extra safety never costs extra!

Incombustible Insulrock minimizes fire hazard for roofs, partitions, ceilings. It's "weather-cured," weather-resistant, strong, unharmed by insects and fungi. Its soft, off-white ceiling finish reduces glare, increases lighting efficiency, protects children's eyesight.

Extra comfort—no extra cost added!

Insulrock, honeycombed by thousands of sound-trapping air pockets, provides acoustical ceilings that reduce room noise, clatter, and confusion by at least 80%. Insulrock insulates from temperature extremes, summer and winter.

Plus bonus ceilings that Insulrock always gives!

Use Insulrock, top-side, for roof deck. Use the same slabs, underside, as exposed, attractive acoustical ceiling. So ceiling really is free!

Write for free Insulrock folder detailing how this most modern, economical building material meets UL standards, applies easily to any surface year 'round, and is today's jack-of-all-jobs for architects, builders, building planners, building committees.

Insulrock®

INSULROCK COMPANY

Sales Office, EAST RUTHERFORD, NEW JERSEY

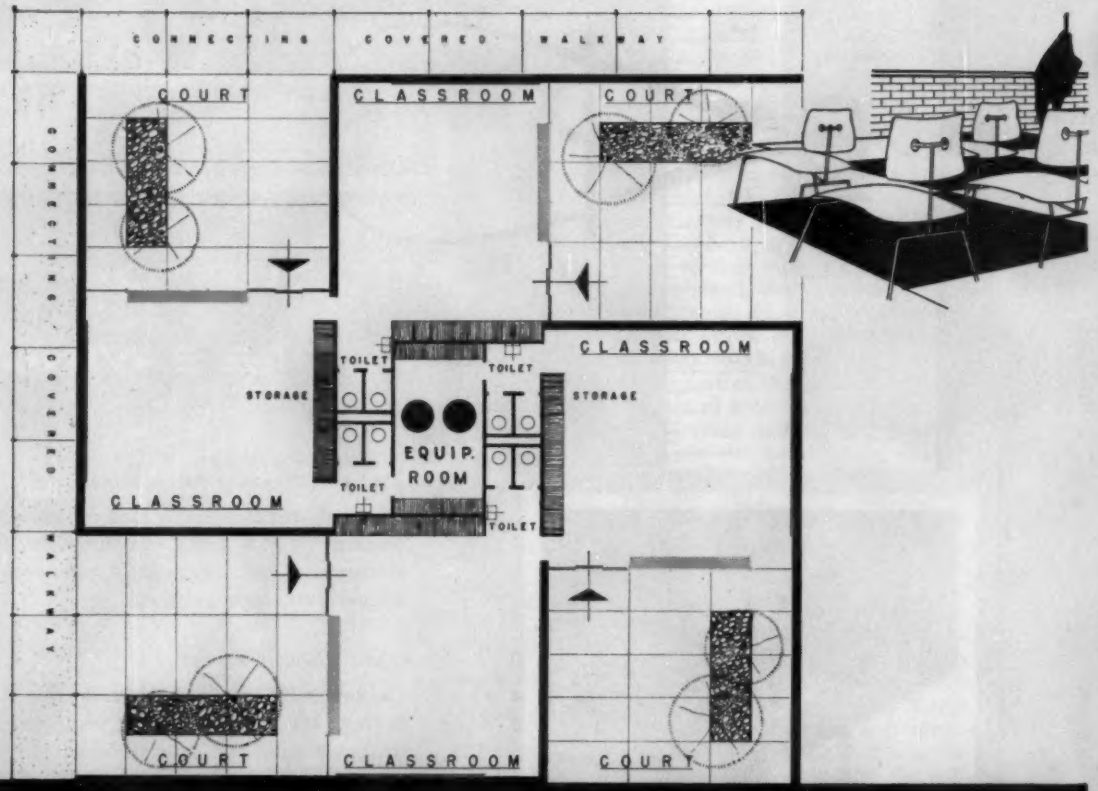
Plants: LINDEN, NEW JERSEY • RICHMOND, VIRGINIA • NORTH JUDSON, INDIANA

FLINTKOTE BUILDING MATERIALS

Division of

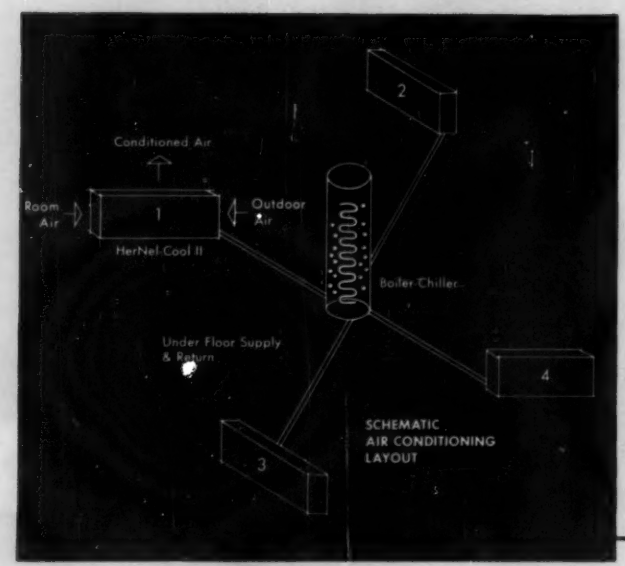
The Flintkote Company

Plan of "cluster" unit. Unique, four-way orientation assures low air conditioning costs. Peak air conditioning load would occur in each classroom at a different time during the day. Central toilet and equipment room area is surrounded by the four classroom-and-court units. Darkening glass walls between classrooms and courts are fixed, only a sliding door is operable.



Number six of a series . . .

The herman nelson file of



CLASSROOM AIR CONDITIONING, more and more is becoming an important factor in school design. Architects everywhere are recognizing the trend in their structural considerations for school buildings.

Educators, too, are thinking—talking—stressing air conditioning. They have found that classroom temperature, air movement and humidity have a direct bearing on learning and development. They realize that it is just as important that a student be as comfortable in hot weather as in wintertime.

For these reasons, many schools are already air conditioned, or are planning for it in the future. Throughout the country, the need for air conditioning is being reflected again and again in basic school design. The building plan shown on these pages is an outstanding example.

Indoor-outdoor classrooms, low-cost air conditioning keynote this school design

This Washington State school design by Culler, Gale, Martell & Norrie, Spokane architects and engineers, combines a stimulating out-of-doors atmosphere with extremely low-cost air conditioning.

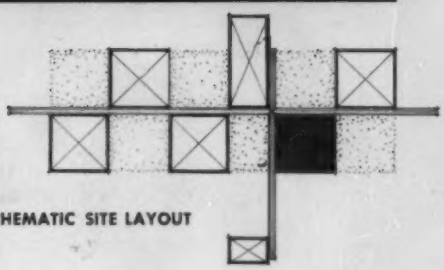
The design is based on completely air conditioned four-classroom "cluster" units—with each classroom opening to its own private court. This provides immediately-accessible outdoor activity along with the ultimate in controlled indoor environment.

The "cluster" conception is also responsible for the extremely low installation and operating cost of the air conditioning. Four-way orientation makes sure that no two classrooms will require the peak air conditioning load at the same time. In addition, the deep overhang over the glass divider wall and the protection of the court's wing wall contributes to minimizing and dividing the solar load. As a result, *a 5-ton packaged chiller is all that's required to air condition the "cluster".*

Expanding on the original "cluster", other units and their group activity spaces are in a checkerboard arrangement connected by a covered walkway.

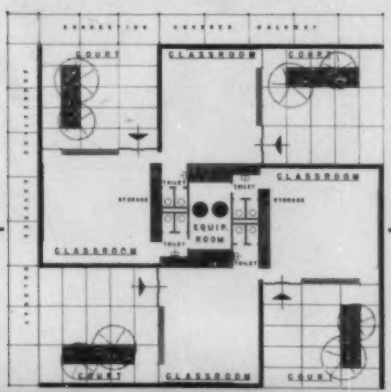
Classroom view, looking out on exterior court. Exclusive DRAFT/STOP eliminates winter downdrafts from glass divider wall without using heat. For this reason, it is the only draft-elimination method compatible with year-round air conditioning.

air conditioned school design



SCHEMATIC SITE LAYOUT

PLAN OF "CLUSTER" UNIT



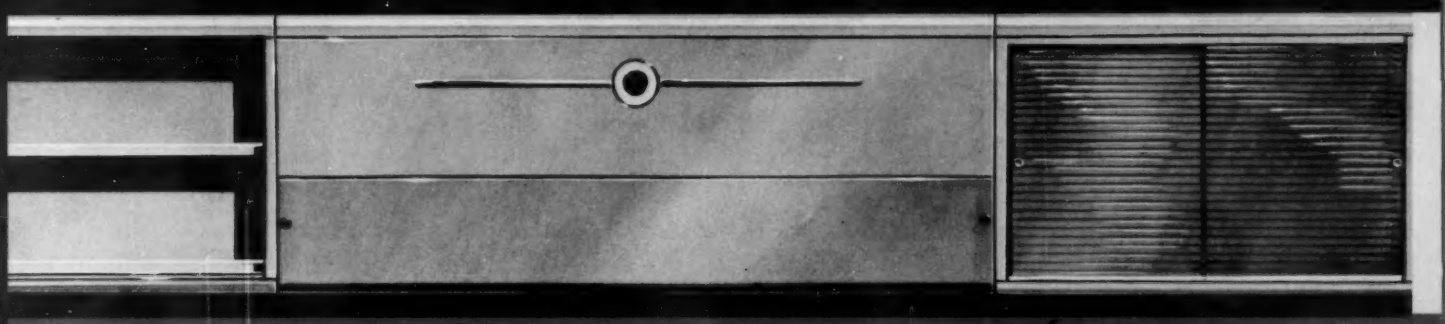
AAF

herman nelson

hernel-cool II

UNIT VENTILATOR

with optional air conditioning



already selected by more than ~~100~~ 200 schools

Will the school you are planning *ever* need air conditioning? The answer is definitely—yes. Architects and educators agree on the importance of the proper learning environment. And only air conditioning can assure that your school will have it when the weather outside is warm.

That's why today—less than a year after its introduction—the HerNel-Cool II unit ventilator with optional air conditioning has been selected for use in more than 200 schools, which are either air conditioned now or have planned for it.

HerNel-Cool II is the first unit ventilator to offer optional air conditioning, as well as heating—ventilating and natural cooling (with outside air). Units can be installed so the school enjoys the usual benefits of Herman Nelson unit ventilation, including the famous DRAFT|STOP system—*the only type of draft control that is compatible with air conditioning*. Then at any time—immediately, or whenever the school budget will allow it—the mere addition of a chiller in the boiler room is all that is needed for complete hot weather air conditioning.

This can be accomplished without disruption of classroom activities . . . without expensive alteration and installation charges. The cost is far less than for separate heating and air conditioning systems—both for installation and operation.

Want information? Write today to Herman Nelson Unit Ventilator Products, **American Air Filter Company, Inc., 215 Central Ave., Louisville 8, Ky.**

AAF

herman nelson

UNIT VENTILATOR PRODUCTS

System of Classroom Cooling, Heating and Ventilating

JUST HOW MUCH DOES PROVISION FOR FUTURE CLASSROOM AIR CONDITIONING COST? The answer is: probably far less than you think—when you install HerNel-Cool II air conditioning unit ventilators. Actually, it costs only fifteen to twenty cents per square foot more than the cost of basic heating and ventilating equipment in average new construction—or between one and two percent of total building cost. Complete, immediate air conditioning is approximately fifty to fifty-five cents more.

By using Herman Nelson unit ventilators, schools have held heating and ventilating costs—including provision for future air-conditioning—to a total of less than $1.35 per square foot. Other schools have heating, ventilating and immediate air conditioning—for a total per square foot cost of less than $1.70! (And, in many cases traditional design concepts were used.) These are current costs, too! HerNel-Cool II unit ventilators have been available for little more than a year.

Look at the costs shown below. They are particularly interesting when you realize that they are truly representative—for Herman Nelson equipped schools in all parts of the country. Locations range from California to New York, from Wisconsin to Georgia.

TEN SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION ONLY

School	Total Cost	Total Cost Per Sq. Ft.	Heating & Ventilating Cost Per Sq. Ft.	Per Cent of Total Cost
A	$ 659,000	$15.33	$1.15	7.6
B	416,211	9.05	1.13	12.4
C	435,270	11.21	1.48	13.2
D	131,223	9.00	1.98	22.0
E	260,164	13.56	1.47	10.9
F	1,013,960	11.27	1.25	11.1
G	577,193	8.39	1.07	12.9
H	310,178	9.84	1.05	10.7
I	344,291	10.43	1.11	10.7
J	118,147	12.38	2.09	16.6
Average $	426,564	$11.05	$1.38	12.8

SEVEN SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION PLUS FUTURE AIR CONDITIONING

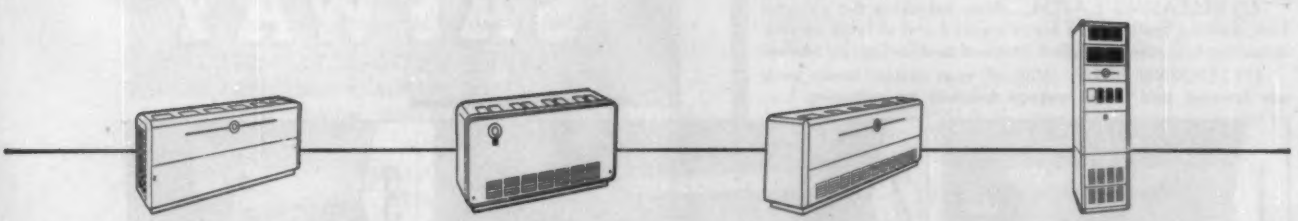
School	Total Cost	Total Cost Per Sq. Ft.	Heating & Ventilating Cost Per Sq. Ft.	Per Cent of Total Cost
K	$ 666,000	$15.49	$1.32	8.5
L	423,511	9.21	1.29	14.0
M	356,800	10.04	1.55	15.4
N	2,813,000	15.44	1.78	11.5
O	2,745,381	16.54	1.76	10.7
P	1,311,000	10.40	1.55	14.9
Q	500,000	15.63	1.72	11.0
Average	$1,259,385	$13.25	$1.57	12.3
Avg. add. cost provisions for future air conditioning				0.19

FIVE SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION PLUS COMPLETE AIR CONDITIONING

School	Total Cost	Total Cost Per Sq. Ft.	Heating Ventilating & Air Conditioning Cost Per Sq. Ft.	Per Cent of Total Cost
R	$ 690,000	$16.04	$1.88	11.7
S	371,100	10.44	1.93	18.7
T	406,463	14.38	2.41	16.8
U	360,700	13.11	2.22	16.9
V	1,094,387	11.55	1.60	13.8
Average $	584,530	$13.10	$2.01	15.6
Average added cost for complete air conditioning				0.71

Complete cost studies—for schools employing immediate air conditioning as well as for those which are planning for its installation later—are available upon request.

Get all the facts now. Classroom air conditioning—immediate or eventual—is being included in more and more school planning. You'll want to consider it in yours. Write today to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., 215 Central Avenue, Louisville 8, Kentucky. *In Canada: American Air Filter of Canada, Ltd., Montreal 9, Quebec.*



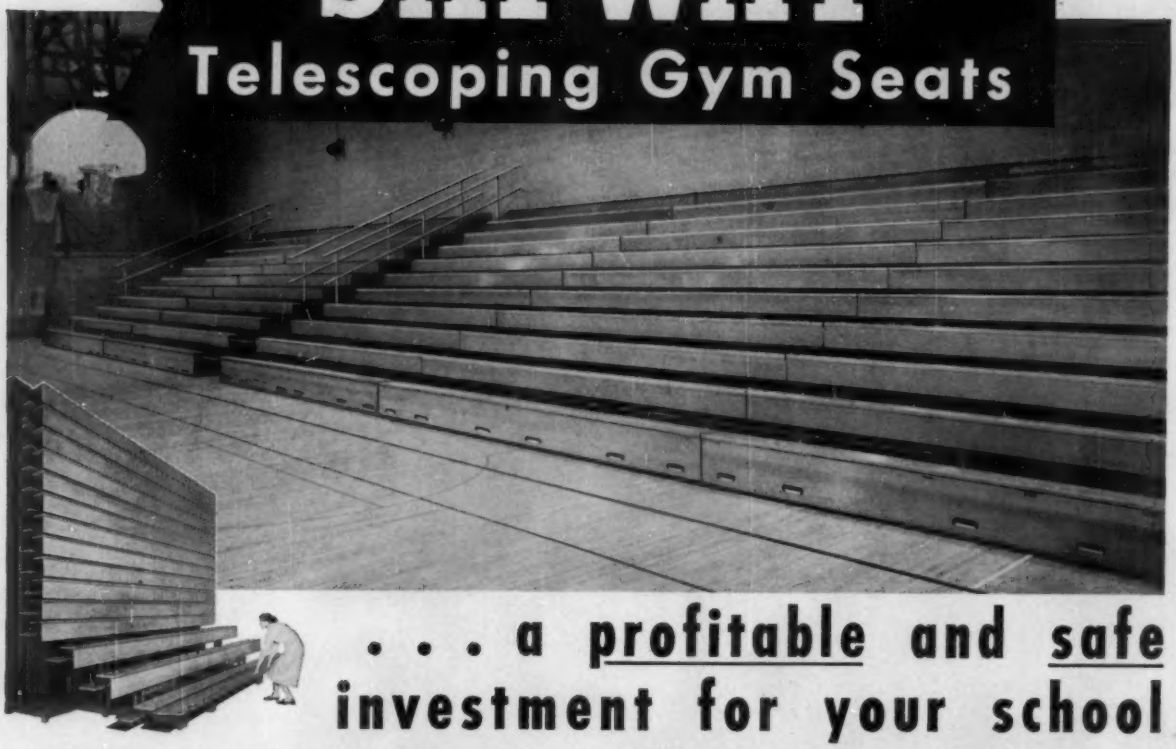
Hot water or steam unit ventilators

Amervent unit ventilators

Electric unit ventilators

UniVent gas-fired unit ventilators

SAFWAY
Telescoping Gym Seats



. . . a profitable and safe investment for your school

YOU'LL GET profitable *full-time use* from your gymnasium—planned or existing—when you install Safway telescoping bleachers.

With the seats extended over the floor, you provide superior vision and comfort for spectator events such as basketball. Nest the seats back into their "cabinet" and you instantly clear the floor for daily gym work.

And with only one or several rows locked open, you can set up convenient sideline seating for athletic practice, dancing parties or other gym floor activities.

Safway's advanced gym seat design also gives you these important benefits:

STRONG, SAFE CONSTRUCTION—8 steel columns under every row; uniform load distribution through vertical and horizontal steel bracing; 3 automatic locking devices.

SIMPLE, EFFICIENT DESIGN — Minimum of moving parts. Stable support with extra-long wheel carriages and 8 self-lubricating wheels under each row.

SMOOTH, EASY OPERATION — Minimum metal-to-metal friction. No costly power equipment needed.

HANDSOME, FURNITURE-LIKE APPEARANCE—Seat and foot boards have rich, glossy Golden Oak finish.

SAFE AUTOMATIC LOCKING

Safway's exclusive gravity latch automatically locks each row in relation to every other row (see three photos below).

(1) LOCKING OPEN. As each row is extended, latch drops behind lock bar on carriage ahead to prevent movement between rows.

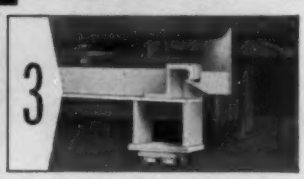
(2) RELEASING LATCH. After unlocking the cylinder lock, pushing seats inward forces tapered end of latch against unlocking bar, raising notched front end and freeing row ahead.

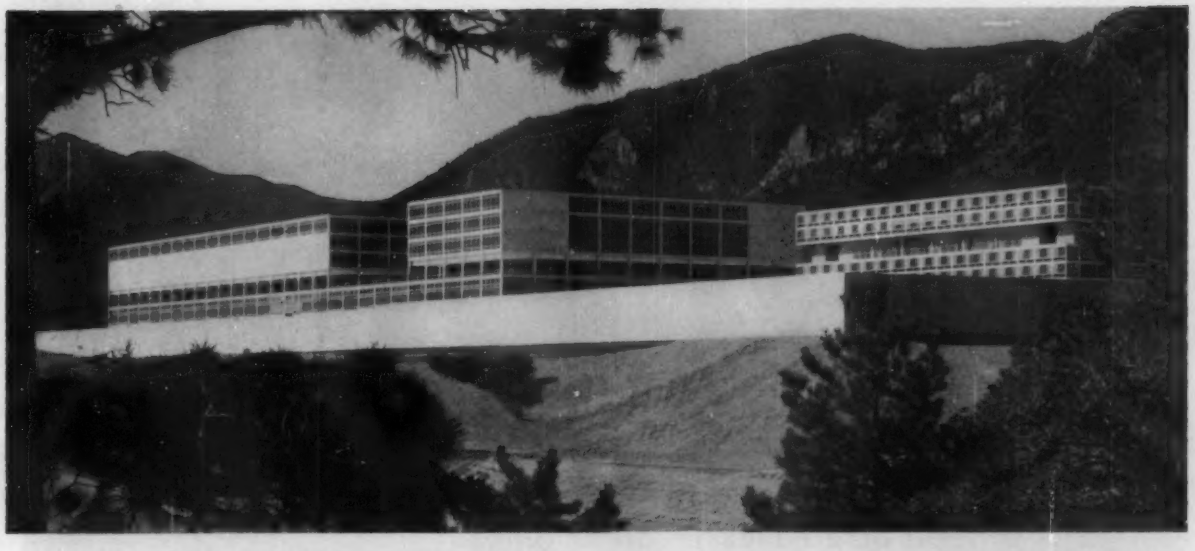
(3) LOCKING SHUT. With all rows nested, brake pads are lowered and hooks engage brackets on unlocking bar.

Ask for engineering help!

Submit your seating requirements for recommendations by experienced Safway engineers. There is no charge for this service. And write today for your free copy of the new Catalog 1611.

SAFWAY
STEEL PRODUCTS, INC.
6237 W. State St., Milwaukee 13, Wis.

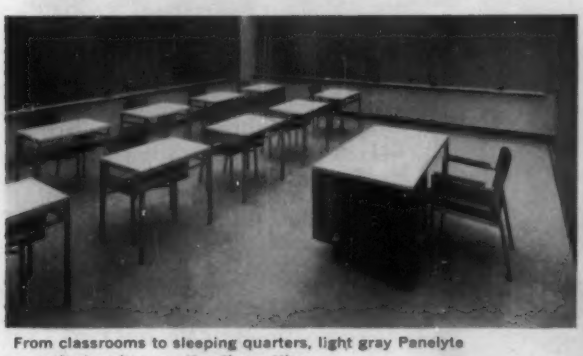




LOCATION: U.S. AIR FORCE ACADEMY

SPECIFICATION: Good Looks, Utility, Durability

INSTALLATION: PANELYTE



From classrooms to sleeping quarters, light gray Panelyte on walnut makes an attractive setting.

Sound-deadening properties and low reflectance value of Panelyte make studying easier.

WALTER DORWIN TEAGUE ASSOCIATES tackled an epic task: equipping the new Air Force Academy with furnishings designed to endure for half a century. Within a framework of demanding specifications, they made a logical choice for horizontal surface areas—Panelyte.

Outstanding among melamine plastic laminates, Panelyte combines all the desired qualities for such installations. Clean-cut modern appearance. Minimum maintenance. Virtual indestructibility.

As fifty classes of cadets use these facilities over the years, Panelyte will prove its lasting value. Something to remember when you're designing with the future in mind. Full range of colors and exclusive patterns. May we send you samples? Write Panelyte Division, Box AR-1158, St. Regis Paper Company, 150 East 42nd Street, New York 17, N. Y.

St. Regis PANELYTE®

The film consists of a series
major West German cities.
Special Size Alberene Stone Sinks
are Available at No Extra Cost
All Alberene Stone Sinks are made to specifications. Integral drainboards and splashbacks are also available. There are no premium charges for special sizes.
Alberene Stone is a natural silicate stone. It has no surface glaze to chip, crack or peel. Its all-silicate mineral components resist chemical attack. Its low absorbency rate of 0.15% makes it essentially nonstaining. Discoloration can be removed by scouring or honing without harm to the surface — which goes all the way thru.
For full information and technical assistance address: Alberene Stone Corporation, 386 Fourth Avenue, New York 16, N. Y. Dept. R.
ALBERENE STONE
provides LOW ABSORBENCY protection

A Record Special Report

Hall and Square should retain all the visual significance of this important public space and building.

Minority Report

The jury were unanimous in regarding the winning design as the most original in conception of any of those submitted.

They were less unanimous about the suitability of this monumental design to the site prepared for it, and as an answer to the requirements of the administrative program. On this there were strong differences of opinion—as there are likely to be in any democratic assembly.

As a minority we were highly critical of some aspects of this design. We were also conscious of the carefully drawn conditions, the cost of the project in the minds of the Council and the public, and the need for a building which is efficient and workable, and flexible enough to meet the requirements of growth and change.

In this dilemma the easiest but less constructive course for the minority would have been withdrawal from the Jury, with whom however we have been in agreement over all decisions in the preliminary stage and over many in the final. Instead we have written this minority report containing our reservations. This will of necessity expose the degree of disagreement or doubt held by the minority, and the reason why these disagreements could not be resolved, as is usual, within the Jury itself. But since no worthwhile judgment is entirely uncritical, the reservations may also be useful to strengthen or modify the design of the City Hall and the City Square as it is finally executed.

Reservations Concerning the Winning Design (No. 006)

Relation to the City

1. On the east and north sides, and to some degree to the west as seen from University Avenue, the winning design shuts out the city around it, presenting blank concrete walls (356 ft and 290 ft in height) to surrounding streets and buildings. This might have an adverse effect on the future redevelopment of these sectors; whereas the new City Hall could otherwise be expected to spark off a number of surrounding projects, eventually leading to a really significant renewal of this part of the City. Much could be done to reduce this adverse effect.

2. The City Square, which in our

University of Detroit — Two views of American Lustragray glare reducing sheet glass in the new Walter O. Briggs Liberal Arts Building.
Architects: Harley Ellington & Day, Inc., Detroit, Mich. *Glazier:* Howe-Martz Glass Company, Detroit.

Another AMERICAN Lustragray Installation

...the glass that reduces sun glare and heat without sacrificing vision

Schools, colleges, universities benefit with Lustragray!

Glare Reduction—minimizes eyestrain and fatigue.

Heat Absorption—for greater comfort.

"Clear Glass" Vision from Interior—creates a spacious atmosphere conducive to learning and necessary for top task efficiency.

Exterior Opacity—sufficient to add to the skin wall effect of a building and provide increased privacy.

Neutral Shade—complements all colors and removes all restrictions on interior decorations.

Economical Price—another benefit that encourages its wide use. And no expensive special glazing is required.

Write us today for new four-page catalog, "American's Glass Products for School Glazing." Its number is "A-5."

AMERICAN WINDOW GLASS DIVISION

AMERICAN-SAINT GOBAIN CORPORATION

BLUE RIDGE

General Offices: FARMERS BANK BUILDING • PITTSBURGH 22, PA.

AMERICAN-SAINT GOBAIN CORPORATION is a merger of the former American Window Glass Company, Pittsburgh, Pa., and the former Blue Ridge Glass Corporation, Kingsport, Tenn. (which was a wholly-owned subsidiary of Saint-Gobain of Paris, France). American Window Glass Division plants are located in Arnold, Jeannette, Ellwood City, Pa.; Okmulgee, Okla. Blue Ridge Glass Division plant is located in Kingsport, Tenn.

WBW 7326

Eager to learn...

. . . *receptive to teaching*

because she's comfortable

Only the comfortable student can take full advantage of classroom learning opportunities. A Nesbitt system provides the right classroom "climate" for every student in every part of the room . . . and for each room, regardless of outside conditions.

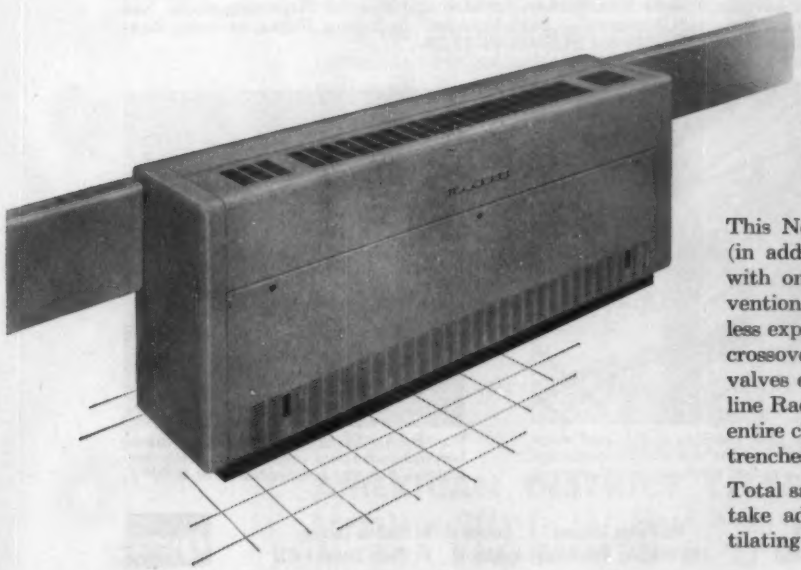
By eliminating the problems of overheating, underheating, drafts, cold walls, stuffy air, odors and noise, the Nesbitt system creates an environment in which students are most receptive to teaching. And it does so at savings worth your full investigation. For more information, please write for Publication 101.

Nesbitt

THERMAL COMFORT ALL WAYS

JOHN J. NESBITT, INC., Philadelphia 36, Pa.
Sold also by American-Standard, American Blower Division, and American-Standard Products (Canada) Ltd.

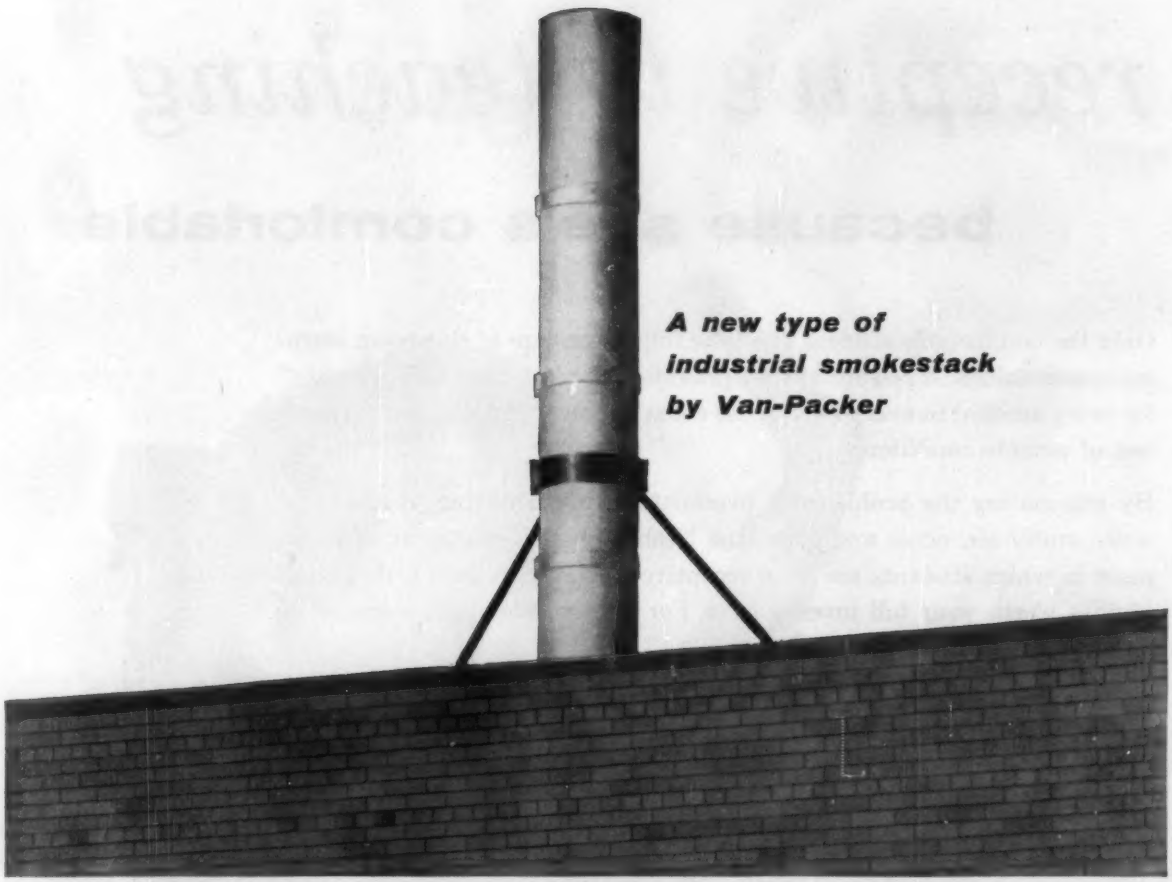
HOW NESBITT CREATES CLASSROOM COMFORT AT REDUCED COSTS!



A Nesbitt Syncretizer in each classroom provides heating, ventilating and natural cooling. Wind-o-line Radiation solves the dual problem of cold walls and window downdrafts. Combined, they provide optimum comfort for every student . . . at savings of 20% or more on construction, installation and equipment costs.

This Nesbitt system provides the required heat (in addition to ventilation and natural cooling) with only one-third as much hot water as conventional systems. This permits the use of smaller, less expensive pipes and pumps. Factory installed crossover tubing, expansion loops and balancing valves eliminate expensive jobsite labor. Wind-o-line Radiation is the supply and return piping for entire classroom wings . . . eliminating costly pipe trenches, mains, runouts and insulation.

Total savings make it possible for every school to take advantage of this finest heating and ventilating system money can buy.



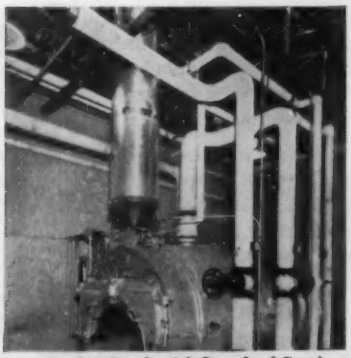
Outlasts steel stacks, costs no more

Won't corrode — The Van-Packer industrial smokestack is made of centrifugally-cast 3-foot refractory sections that will far outlast a steel stack. An aluminum jacket encases each section and eliminates maintenance.

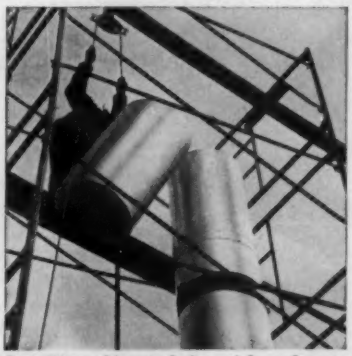
Economical — The Van-Packer costs no more than a steel stack; 2/3rds less than a brick stack. Easy installation, savings on maintenance, and long life results in further savings. Provides high draft equal to that of a comparable brick stack.

For boilers or incinerators — Van-Packer stacks can be installed inside or outside to handle boilers, furnaces or incinerators. Comes in seven diameters from 10-inch ID to 30-inch ID. Handles all fuels.

Available nationwide—Van-Packer Stack is available through local Van-Packer Jobbers and Special Representatives. See "Chimneys — Prefabricated" in Yellow Pages, or write Van-Packer for Bulletin IS-32-54.



Van-Packer Stack with Standard Sections handles boilers and furnaces efficiently. Can be superimposed or floor supported.



Installing this stack is quick and easy. Three-foot sections are simply cemented atop one another with acidproof cement.

Van-Packer Stack with Hi-Temp Sections handles industrial incinerators with continuous flue gas temperatures of 2000° F.

Van-Packer PREFABRICATED REFRACTORY **Stack**

Van-Packer Company • Division of The Flintkote Company
1232 McKinley Ave., Chicago Heights, Ill. • Phone Skyline 4-4772

Sweet's

ADT *Automatic* PROTECTION
specified for economical security against
FIRE-BURGLARY and other hazards

Claimed to be the most modern in the dictating equipment industry, the new plant of The Soundscriber Corporation was designed for the utmost efficiency in manufacturing and operating methods.

In line with the prevailing trend to automation, property protection is completely *automatic*. In case of fire, ADT Waterflow Alarm Service summons the fire department *automatically*. ADT Burglar Alarm Service, including Photoelectric and Ultrasonic Systems, *automatically* notifies police of unauthorized entry to the building or the vault. ADT Heating Supervision *automatically* gives warning of low steam pressure or low room temperature.

Architects and engineers from coast to coast recommend ADT Automatic Protection because these services give greater security for property, profits and employees' jobs than can be obtained by other methods — *and at less expense.*

Whether your property is large or small, sprinklered or unsprinklered, an ADT specialist will show you how appropriate combinations of ADT Automatic Services can improve protection and save money for your client. Call our local sales office, or write to our Executive Office.

Controlled Companies of
AMERICAN DISTRICT TELEGRAPH COMPANY
Executive Office: 155 Sixth Avenue • New York 13, N. Y.
A NATIONWIDE ORGANIZATION

Burt Monovent Continuous Ridge Ventilator converts roof ridge to a quick-acting, giant air valve . . . economically

POT ROOM AIR MOVES OUT FAST AT REYNOLDS ALUMINUM

The huge new Reynolds Metals Company's aluminum plant at Sheffield, Alabama, conditions the air in each manufacturing operation with a carefully engineered system of modern Burt Ventilators.

On the pot lines, where the snow-white alumina powder is transformed into aluminum in a bath of molten cryolite—where great crucibles of molten metal swing down the aisles—84" aluminum Burt Monovents keep the air moving out fast. Over 7,200 lineal feet of this continuous ridge type Burt ventilator—more than 1⅓ miles—ventilates the nine pot line buildings uniformly and economically. Nearly 400 lineal feet of 60" Burt Monovent conditions the service building.

Atop the adjoining rectifier building, with its thousands of square feet of electrical equipment, twenty-five 54" aluminum Burt Free Flow Fan and Gravity ventilators provide fast, big-volume exhaust.

Thirty additional aluminum Burt Free Flow Gravity ventilators serve the pin cleaning, coke and ore unloading and carbon paste buildings.

In the big Reynolds installation only two Burt Ventilator types were required. Other types and sizes might better solve your air moving needs. You will find them all readily available in the complete line of time-proven, modern Burt Ventilators.

Send for **FREE** *Data Book!*

Write for Burt Data Book SPV-101-G.
It supplies quick data on Burt's complete line of modern Roof Ventilators.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 E. South St. AKRON 11, OHIO

MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

opinion should hope to attract citizens of all ages in a rich and varied way, still appears in the final stage of the competition as a somewhat stark design. It could be given greater landscape interest and amenity, and a more human scale.

The Building as a Working Proposition

3. The four main elements in the scheme—the Civic Square, the four-level base or podium (which covers nearly half the site), the two office towers, and the Council and Executive suite—are connected to each other by an external ramp, by escalators, by a large number of elevators in ten different places, as well as by emergency stairs. Internal circulation within the building is complicated, as it involves movement from one office tower to another or to the Council suite; and the one-sided office towers have longer horizontal lines of communication than are found in two-sided arrangements of offices.

4. The Council Chamber and suite, although placed in the very focus of the design, have defects as working accommodation, and a poor outlook.

Structure and Cost

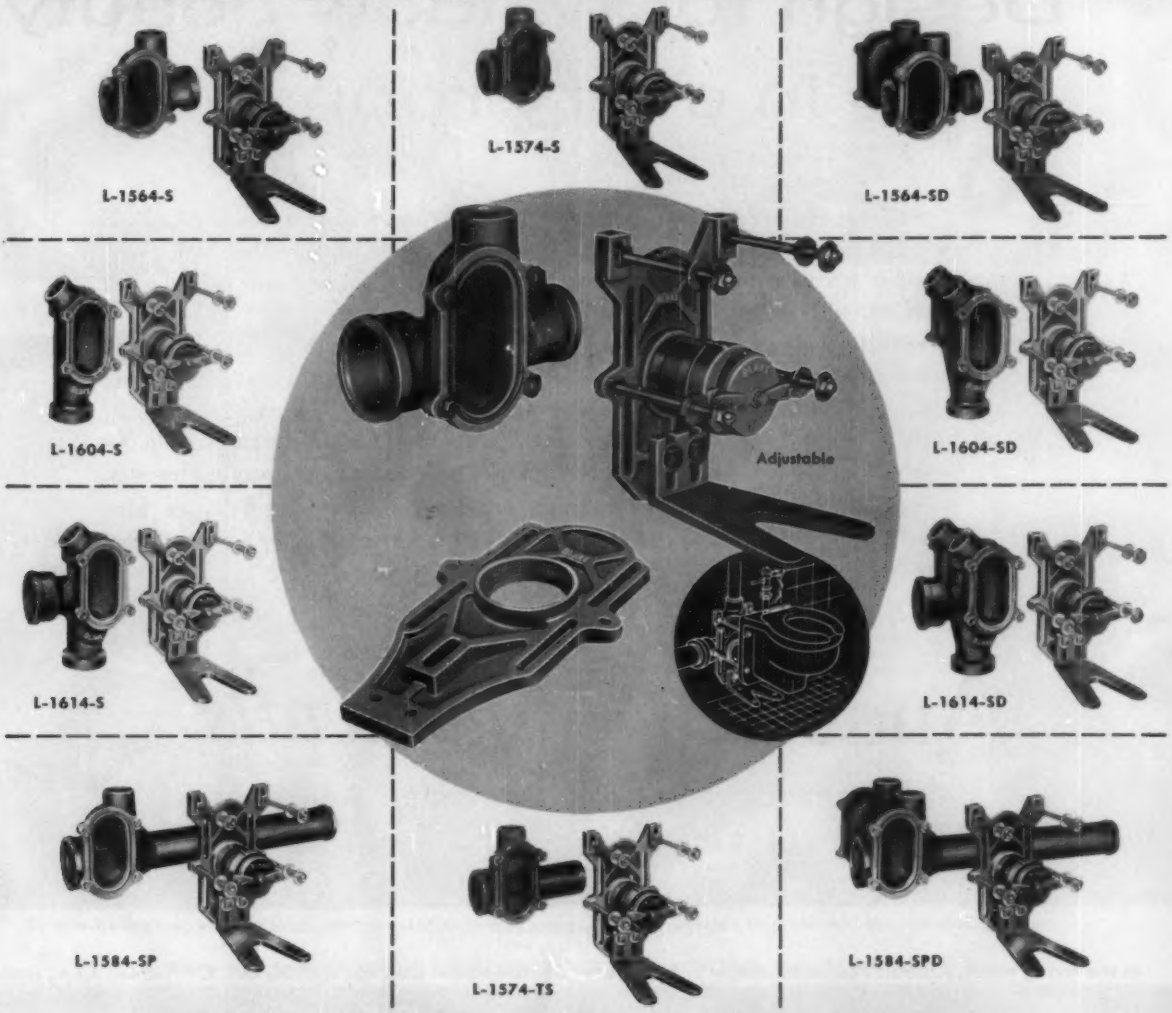
5. The form of construction proposed for the office towers is probably the most expensive which could be devised for vertical slabs. The huge cross-buttressed reinforced-concrete walls support floors which are, in effect, trays cantilevered in one direction. The open ends of the trays are covered by a glazed curtain wall. It is doubtful whether the cantilevers would register in the mind of an external observer, and it seems reasonable to suggest that the form of construction could be modified and reduced in cost.

6. Because of the variety of unusual structural forms, and the considerable space demanded for circulation, the design as presented would, in our estimate, cost much more than the figure which the Council had in mind. By considerable revision, economies in space and structure could be made without changing the main effect of the composition.

Both in the Conditions of Competition (para. 15), and in the report of the Jury on the preliminary stage, the need for reasonable economy was stressed. In order to realize the design and preserve its integrity, even with the revision suggested, the Council should be prepared to increase the sum voted.

BLAKE

COMBINATION ADJUSTABLE "TY" FITTINGS AND CARRIERS



KEEP THE FIXTURES OFF THE FLOOR!

Blake Carriers for Wall Type Fixtures Include:

- ✓ CLOSETS
- ✓ LAVATORIES
- ✓ URINALS
- ✓ SINKS
- ✓ HOSPITAL LAVATORIES
- ✓ HOSPITAL SINKS
- ✓ STERILIZERS

LAVATORY CARRIER

URINAL CARRIER

Blake engineered design "TY" fittings and carriers support wall type closets independent of the wall, providing sanitary and easily maintained rest rooms. A compact, efficient assembly of component parts requiring a minimum of space, Blake "TY" fittings conserve valuable building area and insure proper waste line pitch.

• Horizontal or vertical installations • Single or double applications • Screw pipe or soil pipe • Syphon-jet or blow-out closets • Single installations or for batteries

For complete information on all Blake combination adjustable "TY" fittings and carriers, mail coupon.

HOFFMAN SPECIALTY MFG. CORP., 1700 W. 10th St.
Dept. AR-11, Indianapolis 7, Indiana

Please send me catalog No. 22 on Combination "TY" Fittings and Carriers.

Name_____

Firm_____

Address_____

City_____ Zone_____ State_____

50 YEARS 1908 1958 — LEADING THE PLUMBING TRADES WITH QUALITY DRAINAGE PRODUCTS

Blake Division
HOFFMAN SPECIALTY MFG. CORP.
1700 WEST 10th STREET, INDIANAPOLIS 7, INDIANA

Design for window beauty, in every room!

In every room, in every type of home, Andersen Wood Window Units can help you create lasting beauty and convenience. Their clean, functional lines blend with a wide variety of home designs—whether contemporary or traditional. And their natural wood finish graciously complements surrounding walls and woodwork.

On these two pages are three examples showing how architects are using Andersen WINDOWALLS to achieve interesting design and to provide beauty and convenience. Both types of Andersen Window shown are easy to open and close. They are exceptionally weathertight—thanks to traditional Andersen outstanding design and craftsmanship. All wood parts, of course, are Penta-treated for lasting protection against decay and termites.

For full specification data on Andersen WINDOWALLS, see Sweet's Files—or write Andersen for Detail Catalog and Tracing Detail Files. WINDOWALLS are sold by lumber dealers throughout the United States, and now in Canada.

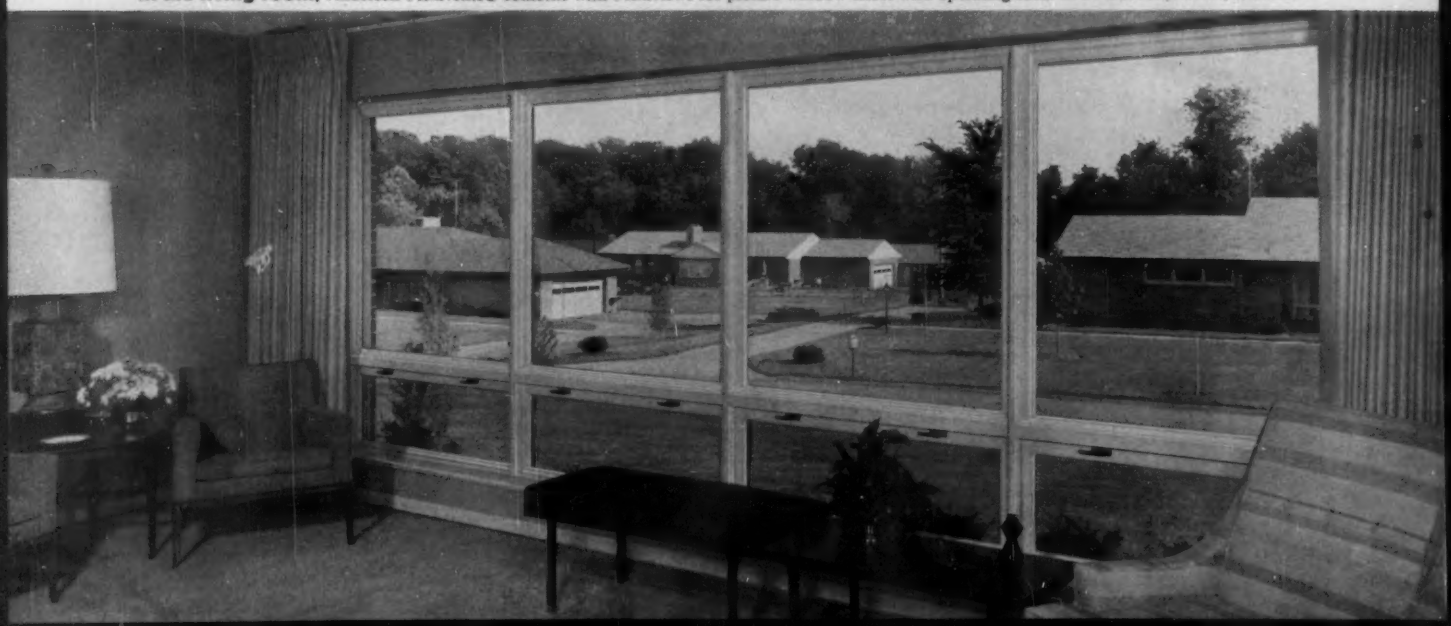
Andersen Windowalls

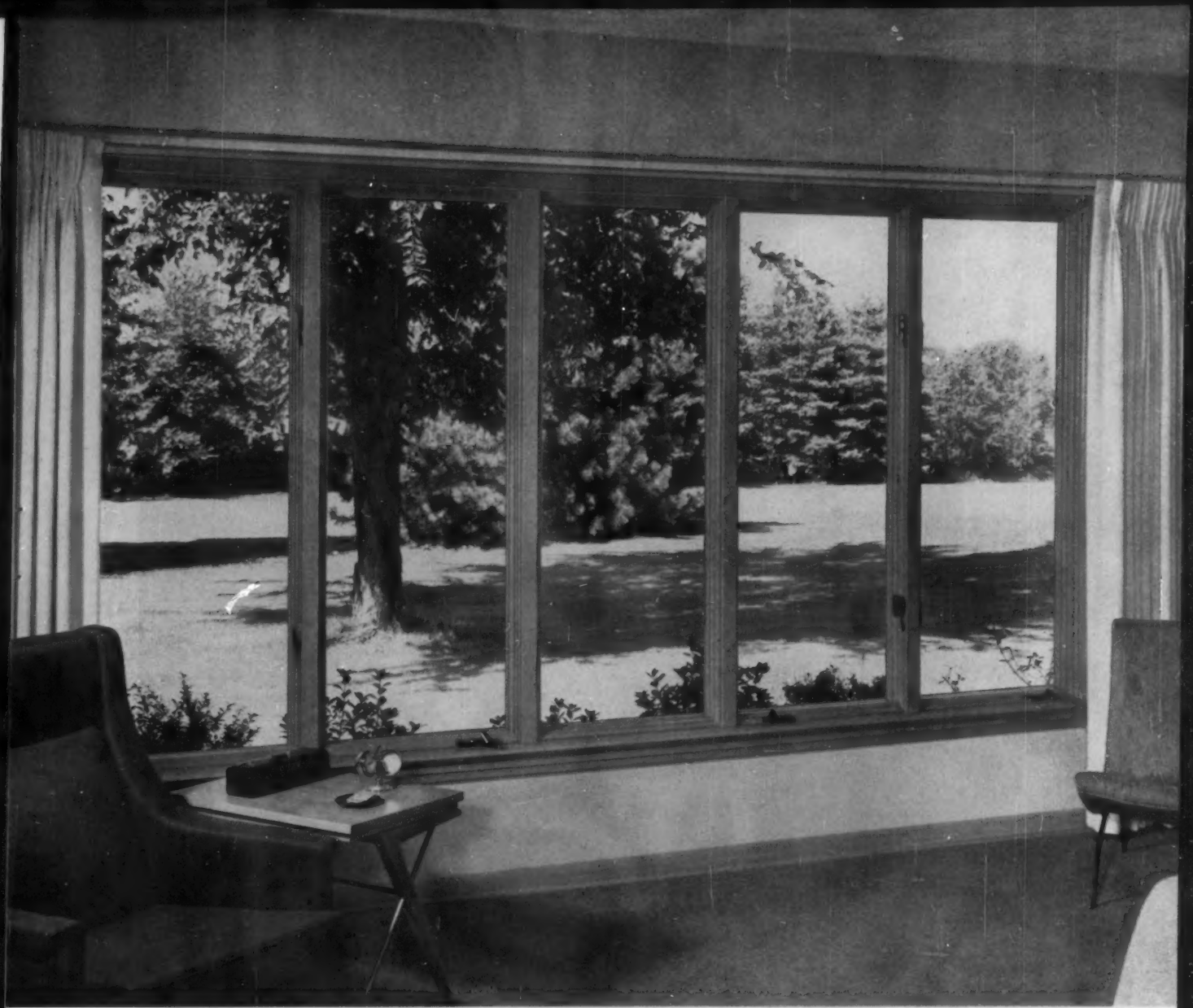
TRADEMARK OF ANDERSEN CORPORATION

AW

ANDERSEN CORPORATION • BAYPORT, MINNESOTA

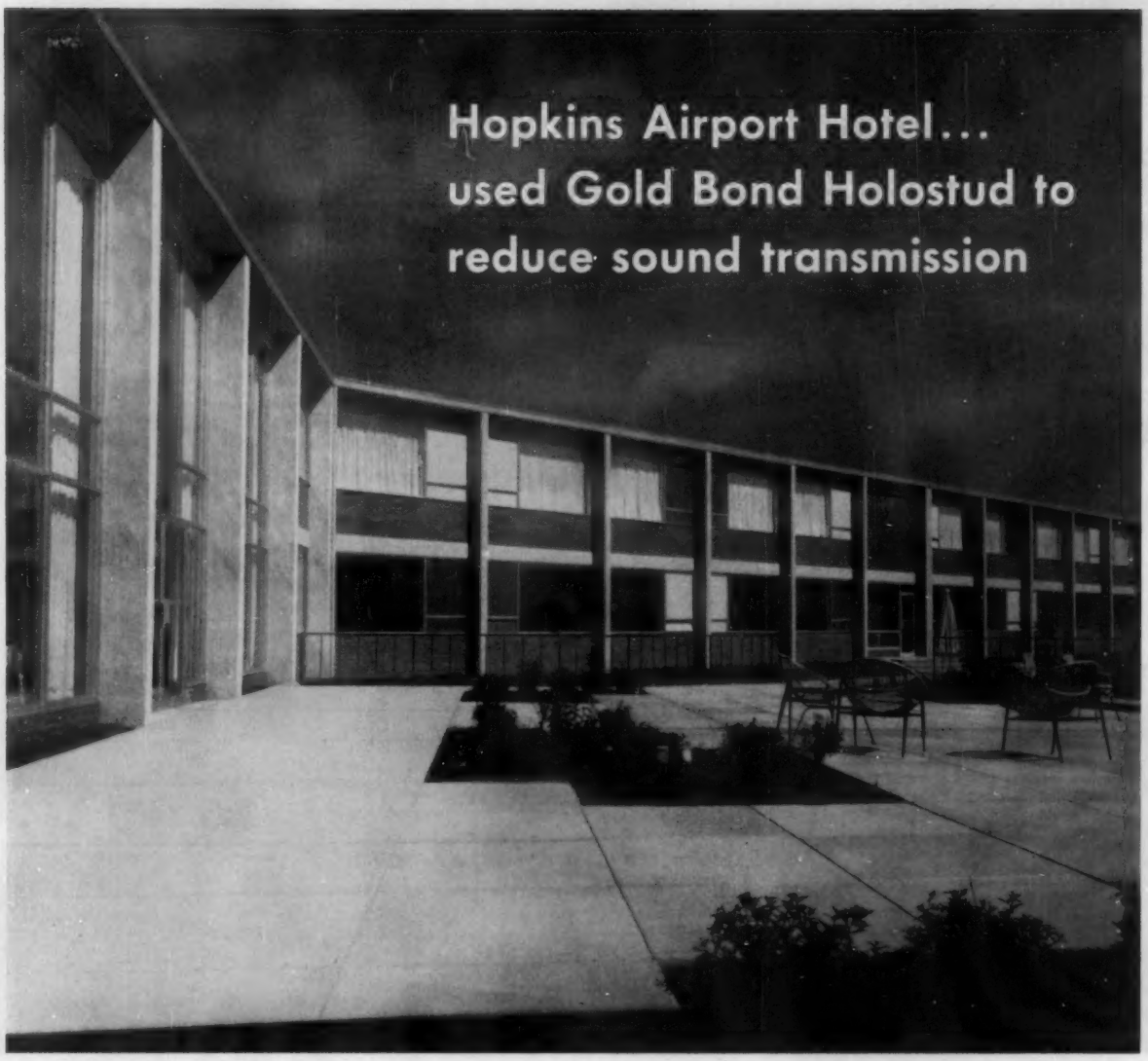
In the living room, Andersen Flexivents® combine with Flexiviews for picture-window effect with operating sash. E. F. Gordon, A.I.A., architect.

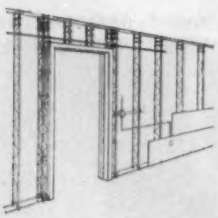




In this bedroom, architect Frank McGuire used Andersen Casement Units to provide a king-size view, to admit cooling breezes.

More wall space is available with the smaller Andersen Casement Units. Architect is Kenneth E. Wischmeyer.





GOLD BOND Holostud was used in all non-load bearing partitions of this 145 unit hotel in Cleveland, Ohio. Guest comfort and privacy were considered at the planning stage and assured in the completed structure. Depending on stud width used, a rating of 40.5 to 46.0 dbs. can be achieved.

The Holostud partition system saves costs too. Installation is fast; horizontal and vertical utilities are simply routed through open-strut type studs.

The Gold Bond® Holostud System can be applied to all non-load bearing partition needs. See your Sweets File 12a/Na or write Dept. AR-118, National Gypsum Company, Buffalo 2, New York.

HOPKINS AIRPORT HOTEL
Cleveland, Ohio

Architect...
OUTCALT GUENTHER & ASSOC.
General Contractor...
ROEDIGER CONSTRUCTION INC.
Plastering Contractor...
J. M. MARINO PLASTERING CO.
all of Cleveland, Ohio

Gold Bond
BUILDING PRODUCTS
NATIONAL GYPSUM COMPANY

From our research and product development laboratory

AGITAIR®

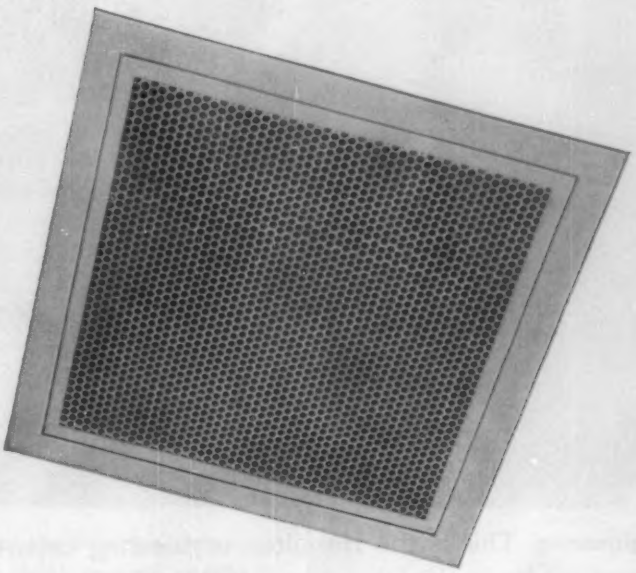
Perfair

SQUARE AND RECTANGULAR

PERFORATED AIR OUTLETS

WITH THESE PRACTICAL PERFORMANCE FEATURES

- Provide Uniform Ceiling Design
- Can Be Located Anywhere In Ceiling
- Interchangeable Diffusing Cores
- Unlimited Patterns
- Built-In Air Controllers
- Adjustable for 1-2-3-4 Way Blows
- No Blank-Offs Required
- Maximum Turbulence — Aspiration
- Quick Temperature Equalization
- Uniform — Draftless Air Distribution



THE ULTIMATE IN APPEARANCE AND VERSATILITY

AGITAIR PERFAIR air diffusers incorporate all the essential features to meet the architects and engineers requirements.

The architectural styling of PERFAIR, both supply and matching return units, conform to all interior designs. The interchangeable core feature and built-in air controllers permit the location of PERFAIR units in any part of the ceiling as desired by the architects.

Engineers can depend upon AGITAIR PERFAIR air diffusers to meet their every requirement — maximum turbulence...aspiration...quick temperature equalization . . . uniform air distribution ...noiseless...draftless operation.'

For quick and easy installation of PERFAIR units, separate mounting frames are available for surface and tile applications.

Ask your AGITAIR representative for catalog P-200 or write direct to Air Devices Inc.

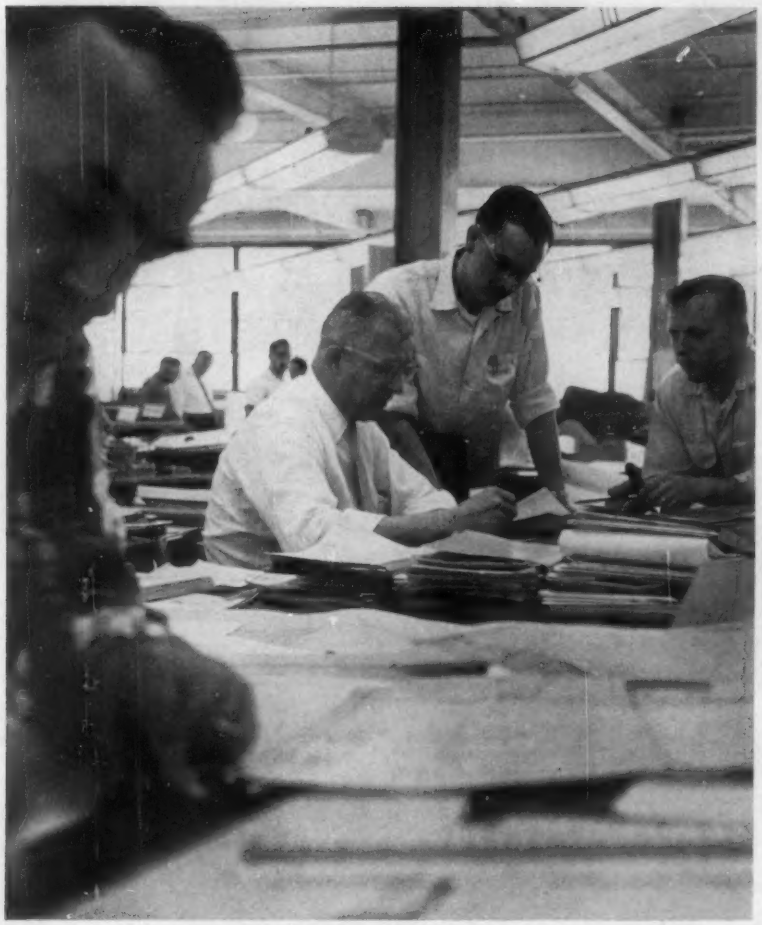
THERMOTANK AGITAIR

high velocity units • punkah louvers
air diffusers • filters • exhausters
registers and grilles

Sold exclusively by representatives for:

AIR DEVICES INC.

185 MADISON AVENUE, NEW YORK 16, N. Y.



Engineering This is the Hamilton engineering department, largest by far in the laboratory equipment industry. Here, every day, complex school, college and industrial laboratory installation problems are turned into practical, working blueprints. Greater cost efficiencies—made possible by modular construction and imaginative use of new materials —are achieved here for our customers. Engineering skill is just one of the *extra values* you receive by specifying Hamilton. *You get more out of Hamilton laboratory equipment because we put more into it!*

Hamilton

WORLD LEADER IN
PROFESSIONAL AND
SCIENTIFIC EQUIPMENT

HAMILTON MANUFACTURING COMPANY • TWO RIVERS, WISCONSIN

The Record Reports

On the Calendar

November

3-7 43rd Annual National Hotel Exposition—The Coliseum, New York

8-13 Annual Convention, National Association of Real Estate Boards—Masonic Memorial Temple, San Francisco

10-12 Annual Convention, Structural Clay Products Institute—Shamrock-Hilton Hotel, Houston

17-21 Eighth National Plastics Exposition, sponsored by Society of the Plastics Industry—International Amphitheater, Chicago

18-20 Ninth National Conference on Standards, sponsored by American Standards Association—Hotel Roosevelt, New York

20-21 Conference on Electronic Computation, sponsored jointly by Kansas City Section and the Committee on Electronic Computation of the Structural Division of American Society of Civil Engineers—Kansas City

20-22 44th Annual Convention, Florida Association of Architects—Deauville Hotel, Miami Beach

22-25 Fifth Annual Building Products Exposition, sponsored by National Retail Lumber Dealers Association—International Amphitheater, Chicago

24-25 National Conference on Metropolitan Growth, sponsored by U.S. Chamber of Commerce—Washington

30ff Annual Convention and Exposition, National Swimming Pool Institute; through December 3—Ambassador Hotel, Los Angeles

30ff Annual Meeting, American Society of Mechanical Engineers; through December 5—Hotels Statler and Sheraton-McAlpin, New York

December

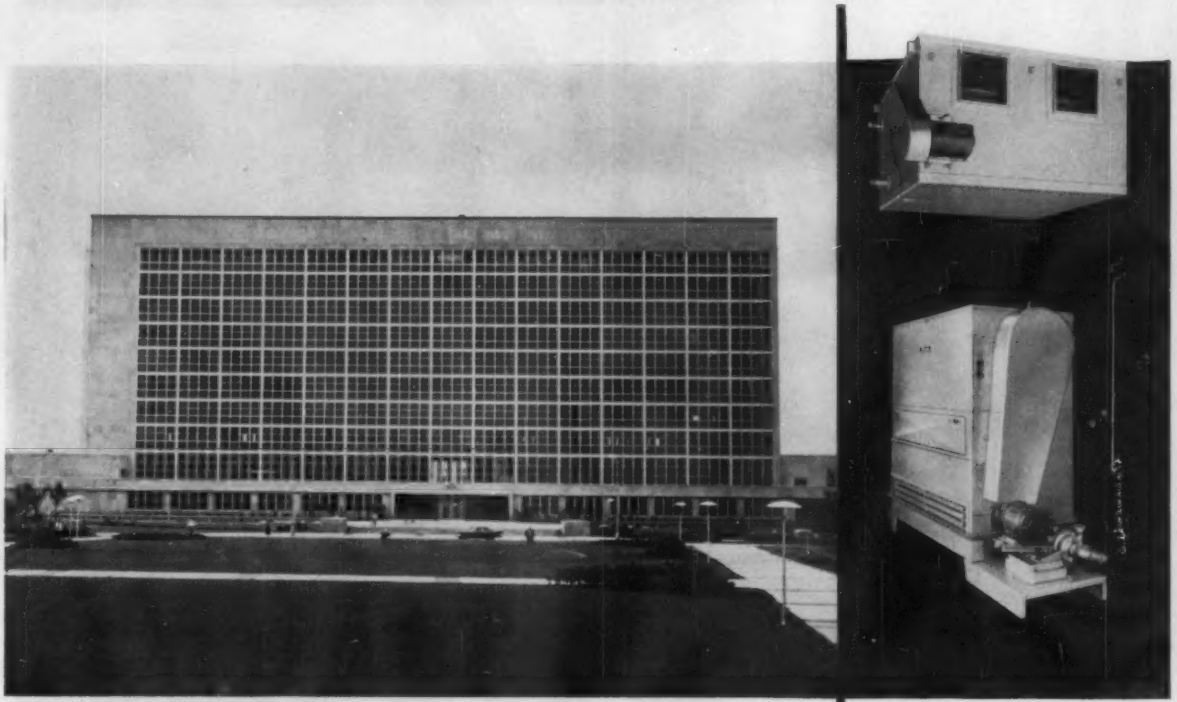
3-4 Building Research Institute Conference on Field Applied Paints and Protective Coatings, co-sponsored by National Paint, Varnish & Lacquer Association and Painting & Decorating Contractors of America—Shoreham Hotel, Washington

8-10 Winter Meeting, American Nuclear Society—Sheraton-Cadillac Hotel, Detroit

10-11 "Creative Trends in Urban Building," fourth annual Na-

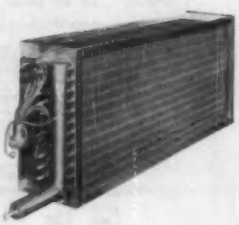
Marlo Air-Conditioning

equipment cools *New Orleans* modern city hall



In contrast to the Old World atmosphere of the French Quarter, this new crystal-and-concrete structure shows us another side of New Orleans—crisp and clean-lined, modern and functional.

But sweeping areas of glass like these demand an air conditioning system of flexibility and dependability. To meet these special needs, three types of Marlo equipment were installed: floor type central station units, coils and cooling tower. In the muggiest heat that New Orleans can muster, city hall workers and visitors stay fresh and unwilted.



This striking building was designed by Favrot, Reed, Mathes & Bergman. Engineers were De Laureal & Moses, mechanical contractor Emile M. Babst Co.

There's a Marlo representative near you. For complete information on modern Marlo air conditioning and heat transfer equipment, call him or write directly to us.

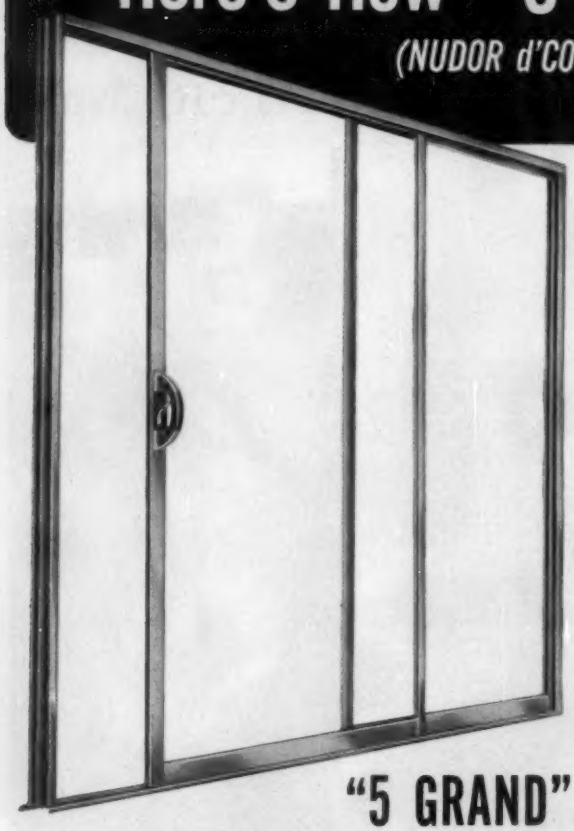
Marlo coil co.

SAINT LOUIS 11, MISSOURI

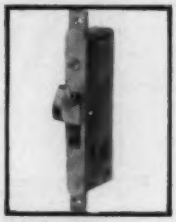
Quality Air Conditioning and Heat Transfer Equipment Since 1925

Here's How "5 GRAND" Looks!

(NUDOR d'COR series 5000)



d'Cor's charcoal finish door pull is contour styled to blend with any decor.



Only quality materials like this famous Adams Rite lock are used in the "5 Grand."

The door you've asked for . . .

It will excite your customers . . . when they see its rugged, clean line, luxurious styling with the famous d'Cor charcoal finished contoured pull . . . when they grasp the comfortable contoured shape and feel the feather light pull it takes to "float" the "5 Grand" along the threshold. There's no bend or give to locking style.

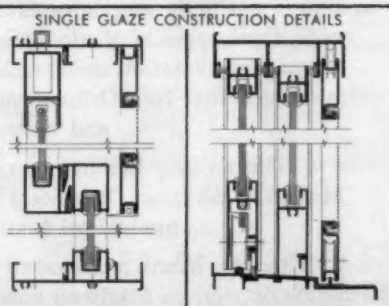
"5 GRAND" reasons why you'll specify it!

1. Sure to be a top volume seller because it looks, feels and *is* a premium, quality door . . . but it costs less than a medium quality door. **2.** It has more quality features than any other door in its price range. **3.** This new "5 Grand," like all other Nudor products, is produced under their famous quality control system. Precision engineered and precision manufactured. **4.** Famous Adams Rite locking mechanism in the exclusively designed exterior escutcheon pull, is tamper and burglar proof. **5.** Weather seal formed by single plane network of Schlegel wool pile & Ryko vinyl glazing bead prevents water, air & dust infiltration.

SINGLE GLAZE SIZES

TYPE VIEWED FROM EXTERIOR	DOOR SIZES W - WIDTH	DOOR SIZES H - HEIGHT	GLASS SCHEDULE WIDTH & HEIGHT	GLASS SCHEDULE REQ.
XO	5' 11½"	6'-10"	34" x 78"	2
	7' 11½"	6'-10"	46" x 78"	2
OX	9' 11½"	6'-10"	58" x 78"	2
	Custom	Custom	($\frac{W}{2}$-1½") x (H-4")	2
OXO	8' 11"	6'-10"	34" x 78"	3
	11' 11"	6'-10"	46" x 78"	3
	14' 11"	6'-10"	58" x 78"	3
	Custom	Custom	($\frac{W}{3}$-1 $\frac{13}{32}$") x (H-4")	3

SINGLE GLAZE CONSTRUCTION DETAILS



NUDOR

Member SLIDING GLASS DOOR AND WINDOW INSTITUTE

Nudor Branch Factory: Geneva, Indiana

Nudor Atlanta Warehouse: Atlanta, Georgia

NATIONWIDE SALES AND SERVICE REPRESENTATIVES

7326 Fulton Avenue · North Hollywood, California

Manufacturers of HI LO, NUDOR d'COR Aluminum Sliding Glass Doors and Nudor Horizontal Rolling Glass Windows

AIA file number 16E

British Overseas Airways Corporation waiting room at Idlewild Airport, Long Island. Architects: LaFarge, Knox & Murphy, New York. Flooring Contractor: Builders Wood Flooring, New York. Flooring: Nairon Custom Vinyl Tile in Venetian* by Congoleum-Nairn.

B·O·A·C says "Welcome to America" with Vinyl Floors by Congoleum-Nairn

Famous airline combines British smartness with American utility in new Idlewild Airport waiting room.

First impressions mean a lot. You expect that and much, much more from a heavily trafficked floor. That's why BOAC attached such importance to combined good looks and durability for their new waiting room where visitors from all over the world come and go each day.

Furnishings of luxurious modern simplicity were chosen with taste and care. Then they were set against the elegance of the "Venetian" pattern in Nairon Custom Vinyl Tile by Congoleum-Nairn.

Nairon* Custom Vinyl is the flooring that exemplifies the compatibility of beauty and practicality. Colors are clear, non-fading, more vivid or subtle—to enhance any decor. The patterns are sharper, newer, and since they go *all the way through* Nairon Custom Solid Vinyl Tile, the patterns never wear off, never show "traffic lanes" of wear. Upkeep is reduced to the absolute minimum. This vinyl cleans easily, needs no heavy waxing. Takes heavier loads without indenting, too (up to 300 lbs per square inch).

That's why time after time individuals, architects, builders, decorators specify Congoleum-Nairn custom-quality vinyl floors.

When you are concerned with choosing materials that will form a public impression of character for your clients, specify Congoleum-Nairn fine flooring with assurance of satisfaction . . . every time.

SPECIFICATIONS: Available in 40 different colors and patterns 9" x 9" and 12" x 12" tiles (18" available on special order).

INSTALLATION: Above-grade floors of wood, concrete, or ceramic tile. On-grade floors of concrete or ceramic tile, with or without radiant heating.
Below-grade installation with special adhesives. Wall installation with special adhesives.

GOLD SEAL Congoleum-Nairn FINE FLOORS

*Trademark

©1958, Congoleum-Nairn Inc., Kearny, New Jersey

FOR HOME/BUSINESS/INSTITUTIONS: BY-THE-YARD, TILES—INLAID LINOLEUM • NAIRON® PLASTICS • CORK TILE • RUBBER TILE • ASPHALT TILE • SATISFACTION GUARANTEED OR YOUR MONEY BACK.

NOW . . . two new Magnetic Catches that fine furniture and cabinets can

wear proudly

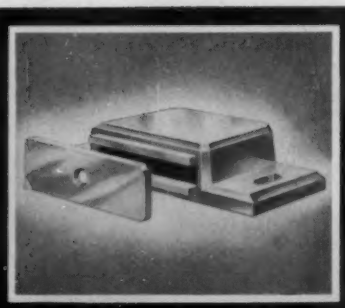
because these new plastic cases harmonize beautifully with any wood grain or finish

They're practical, too! The case is high-impact rigid polyethylene plastic. Concealed lifetime floating magnets are self-aligning to enlarged strike plates. These catches have positive holding power and help prevent door warpage. Mountings can be varied and installation is easy and quick. Standard case color is beige. Other colors available on special order.

NEW EPCO CATALOG AVAILABLE
Full information on the complete line of magnetic and friction catches; E-Z Glide track for sliding doors, and drawer and door pulls will be sent on request.

EPCO®

See Your Jobber, or write to—
THE ENGINEERED PRODUCTS CO.
P. O. BOX 118 FLINT, MICHIGAN



#1000 MAGNETIC CATCH
15 lb. pull lifetime ceramic magnet. Has universal mounting applications.

#1001 MAGNETIC CATCH
7½ lb. pull alnico lifetime magnet. Mounts on door. Strike can mount in various ways.

For your file on ceramic tile

"The Talents of Tile"—12 color pages of Romany• Spartan school and college installations. "Color Harmony Guide"—8 pages illustrating Romany• Spartan's complete tile line, with helpful chart showing harmonious combinations. For either or both, write United States Ceramic Tile Company, Dept. R-27 Canton 2, Ohio.

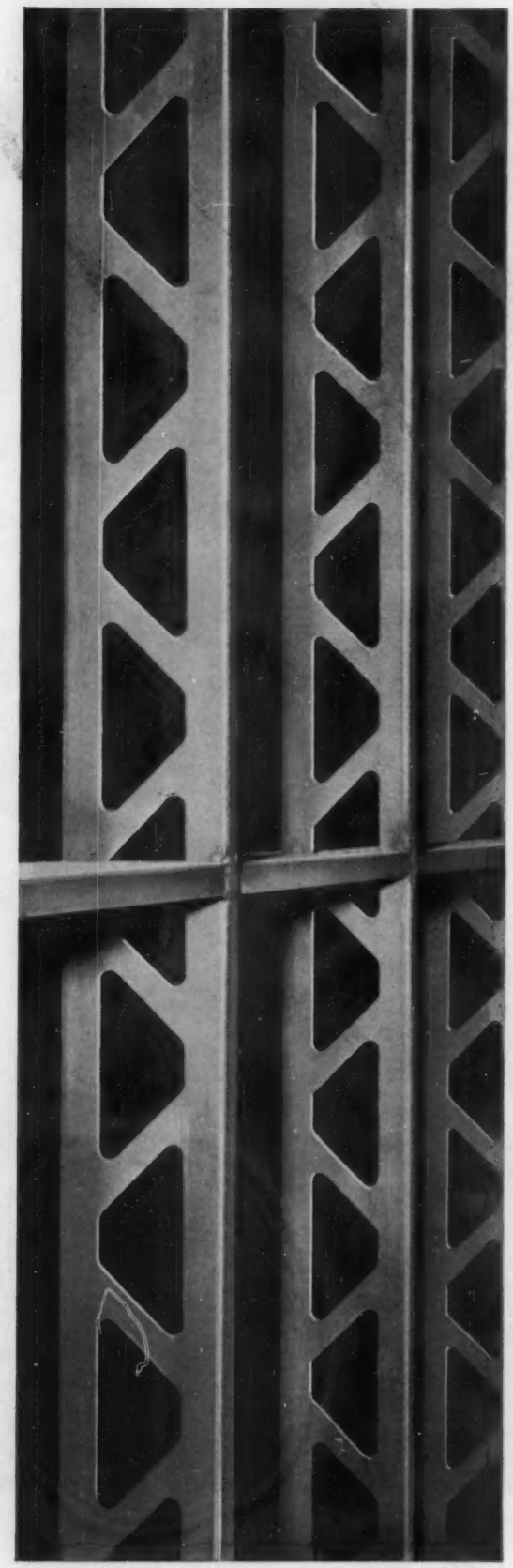
PROBLEM: Find the Grinnell Automatic Sprinklers.

SOLUTION: They are *completely* out of sight, hidden above the modern ceiling in this department store.

Grinnell has been a leader in the engineering, manufacture, fabrication, and installation of fire protection systems for more than 85 years. For architecturally right solutions to your fire protection problems, contact Grinnell Company, 277 West Exchange St., Providence, Rhode Island.

GRINNELL
Whenever Fire Protection Is Involved

Duraspeed Spray Sprinkler | Ceiling-Type Spray Sprinkler | Sidewall Quartzoid Sprinkler



New Stran-Steel

LOAD-BEARING PUNCHED CHANNEL STUDS

Light Weight . . . Load Bearing . . . Larger Web Openings Give Maximum Clearance for Pipes and Conduit . . . Easy Attachment of Metal Lath and Collaterals . . . Attractive Design . . . Low Cost

New Stran-Steel Punched Channel Studs have been specifically designed to meet the demands of modern architecture for a more versatile lightweight steel framing. They are stronger, to provide high load bearing capabilities without sacrificing low cost or light weight; attractively designed, to present a pleasing appearance as exposed members. Large triangular openings provide more clearance for pipes and conduit. More flange area permits easy attachment of metal lath or collaterals. New Stran-Steel studs are ideal for exterior curtain wall, four-hour wall, spandrel wall framing, exterior and interior load bearing walls, high bay partitions, jamb studs and architectural treatment. Track and bridging are available for use with the studs.

Punched Channel Studs are the newest addition to the complete system of Stran-Steel structural components—lightweight steel for economical, space- and time-saving construction of commercial or industrial buildings, single or multi-floor. For specifications, mail the coupon now or contact your Stran-Steel Architectural Products dealer. He's listed in the Yellow Pages under *Steel*.

Dept. 23-63

Stran Steel

STRAN-STEEL CORPORATION

Detroit 29, Michigan • Division of

NATIONAL STEEL CORPORATION

Stran-Steel Corporation, Dept. 23-63
Detroit 29, Michigan

Please send complete data on Stran-Steel Punched Channel Studs and Architectural Products Catalog.

Name_____

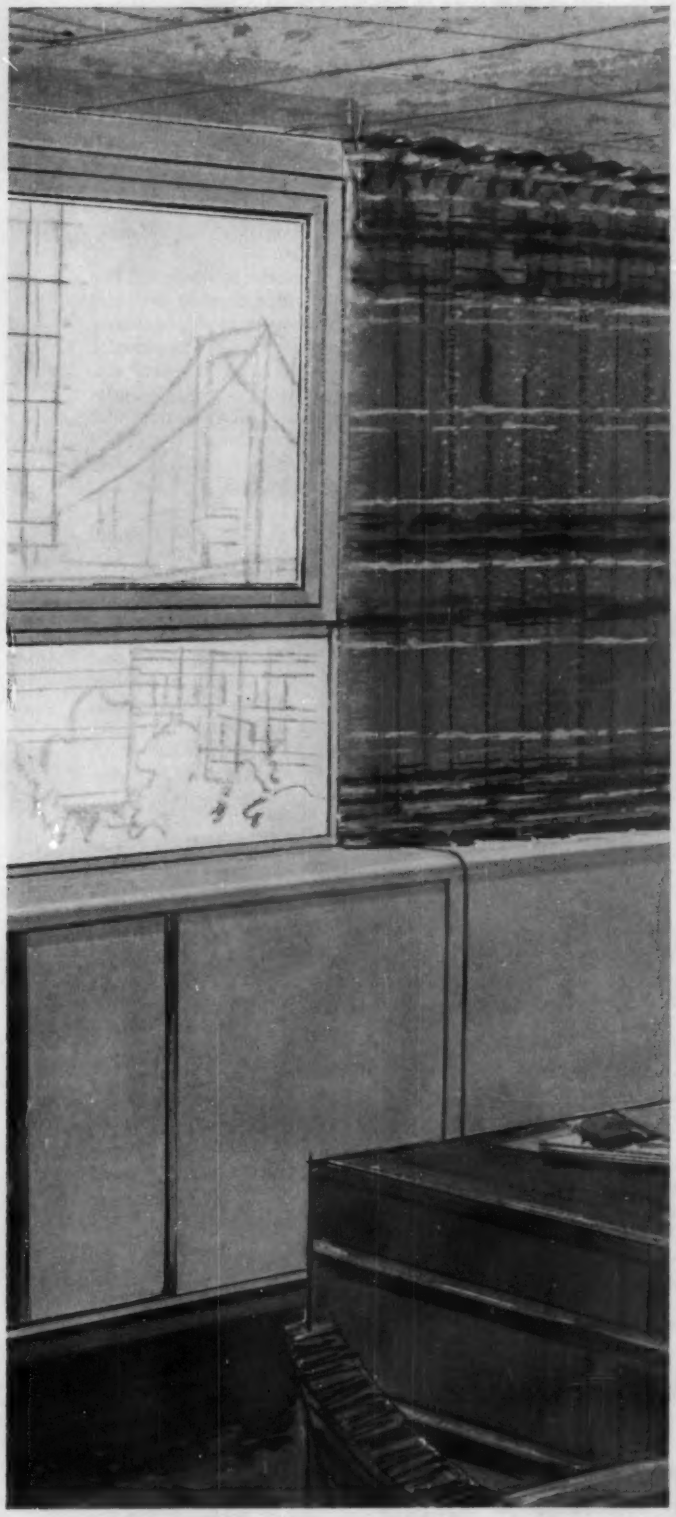
Title_____ Phone_____

Firm_____

Address_____

City_____ Zone_____ State_____

SOON



...Comfort conditioning will become an integral part of a Lupton curtain wall!

New LUPTON Aluminum Curtain Wall adds cooling and dehumidifying . . . with individual regulation.

LUPTON's brand-new concept in curtain wall function will simplify your design problems . . . provide more income-producing space . . . for all true perimeter buildings.

It will reduce installation costs to 40-60% of those for a central system. You'll no longer need unsightly, expensive cooling towers or bulky, space-eating ductwork and plumbing connections . . . *only electrical connections.* Skilled LUPTON crews will assemble the units . . . giving you one-source responsibility.

Advance planning will permit greater flexibility. You'll install as many LUPTON Comfort Conditioning Aluminum Curtain Wall Units as you need at first. In each office, you can combine the unit with shelving, bookcases, or storage cabinets. You can replace these latter units with additional LUPTON units if required. LUPTON offers two units . . . *heavy-duty* for areas where a number of people work, and *lighter-duty* for offices containing only a few persons. You can interchange these units as loads decrease or increase.

Air conditioning costs go down. LUPTON's personalized controls eliminate costly over-air-conditioning. Give each occupant the exact amount of comfort conditioning he desires. Allow complete variations from office to office.

Your clients will get a major rental feature: personalized comfort conditioning. The LUPTON Comfort Conditioning will remove smoke and odors through its exhaust . . . as well as providing ventilation and other comfort conditioning features.

Write today for more information about this revolutionary new advance in aluminum curtain wall design and function.

LUPTON

ALUMINUM CURTAIN WALLS AND WINDOWS
MICHAEL FLYNN MANUFACTURING COMPANY

Main Office and Plant: 700 E. Godfrey Ave., Philadelphia, Pa. New York, N.Y., Chicago, Ill., Cincinnati, Ohio; Cleveland, Ohio; Los Angeles, Calif.; Stockton, Calif.; Dallas, Texas. Representatives in other principal cities.

tional Construction Conference, co-sponsored by American Institute of Architects, American Society of Civil Engineers, Armour Research Foundation of Illinois Institute of Technology, Building Research Institute, Associated General Contractors of America—Hotel Sherman, Chicago

17ff "20th Century Design," first exhibition of entire Design Collection; through Feb. 23—Museum of Modern Art, New York

January

14-15 Building Research Institute Conference on Acoustical Design in Buildings—Hotel New Yorker, New York

18-22 15th Annual Convention and Exposition, National Association of Home Builders—Chicago

26-29 Plant Maintenance and Engineering Show—Public Auditorium, Cleveland

26-30 Annual Meeting and Exposition, American Society of Heating and Air Conditioning Engineers—Philadelphia

29-31 Annual Meeting, Society of Architectural Historians—Cleveland

Office Notes

Offices Opened

William P. Greening, A.I.A., and Joel W. Sayers, Jr., A.I.A., announce the formation of a partnership, Greening & Sayers, Architects, at 200 Seabreeze Blvd., Daytona Beach, Fla.

Robert S. Loomis announces the formation of a partnership for the practice of professional engineering in structures and soils mechanics with Raymond H. Loomis under the name of Loomis and Loomis, Consulting Professional Engineers, 252 Broad St., Windsor, Conn.

Norbert L. Troller, A.I.A., has opened an office at 230 E. 73rd St., New York 21.

Lorand West, A.I.A., has opened an office at 7233 Beverly Blvd., Los Angeles 36.

Firm Changes

Curtis and Davis, architects and engineers of 2475 Canal St., New Orleans 19, announces the appointment of Kamlah L. Johnson, A.I.A., I. Mary Mykolyk, A.I.A., Aubrey G. Code, C.E., and William B. Settoon, C. E., as associates.

The firm of Wm. Henley Deitrick and Associates, Architects, of Raleigh, N. C., announces that it has opened a branch office at 206 Davis Bldg., Wilson, N. C., with Bosworth C. Beckwith in charge.

The partners of I. M. Pei & Associates, New York, announce that Araldo Cossutta, Leonard Jacobson, and Vincent de Pasciuto-Ponte have been appointed associates.

New Addresses

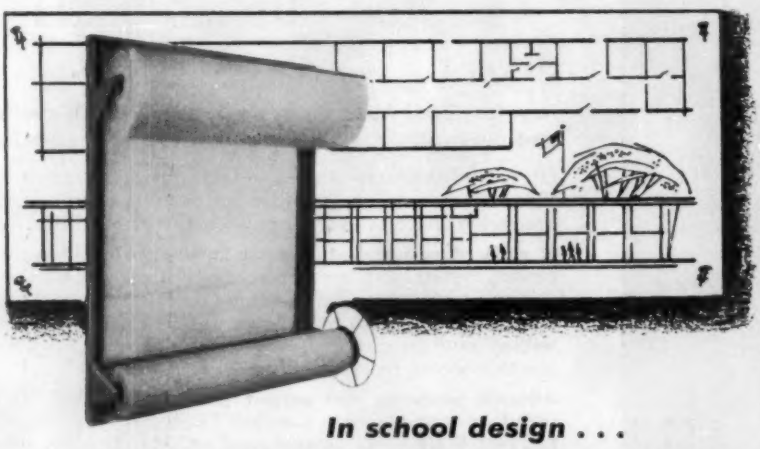
J. Lloyd Conrich, A.I.A., 45 Second St., San Francisco 5.

André Merle Associates, Consulting Engineers, 1500 Massachusetts Ave., N.W., Washington 5.

Wood & Sibbert, Consulting Engineers, Cat Rock Rd., Cos Cob, Conn.

Corrections

The RECORD deeply regrets an error on page 213 of the September issue. The credit for the Temple University Medical Center should have read: James A. Nolen, Jr., and Skidmore, Owings & Merrill, Architects. The RECORD also regrets an error in the name of the project manager for the Medical Center, which should have been given as Harold J. Olson.

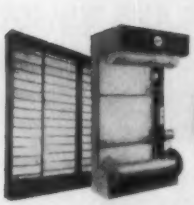


In school design . . .

ARCHITECTS AND ENGINEERS USE

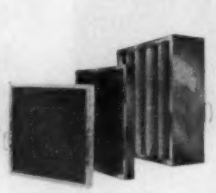
CONOMANUAL

When *you* build for young America,
plan to Clear the Air with CONOMANUAL . . .
the new hand-operated, roll-away type, viscous impingement filter that combines economy with convenience.
CONOMANUAL requires less attention and effort than ANY non-automatic filter system and is particularly desirable for schools, or buildings where use is intermittent and cost considerations preclude fully automatic equipment, such as Continental's CONOMATIC.
With CONOMANUAL a few turns of the wheel give fresh new media . . . low in resistance, highly efficient, unusually high in dust-holding capacity. Disposable, dry-type, synthetic media is moisture-, fungus-, and fire-resistant. CONOMANUAL is now available for horizontal as well as vertical installations.
For complete details ask your local Continental Representative for Bulletin No. 850 . . . or write direct to:



P. O. BOX 1647 LOUISVILLE 1, KY.

CONTINENTAL AIR FILTERS, Inc.



"WE SECURED EVEN TEMPERATURES THROUGHOUT THIS 14-STORY BUILDING WITH SARCOTHERM HEATING SYSTEM CONTROLS,"

say Slingerland and Booss, architects and engineers

New York's "Avon House," completed in 1957, Architects and Engineers: Slingerland and Booss, 120 Greenwich Street, N. Y. C.

Mechanical Contractors: Fein-Schlosberg, Inc., 1770 Second Avenue, N. Y. C. Owner: The Ten Men Realty Co., Leon Finley, President, N. Y. C.

In the superbly appointed "Avon House" apartments at 340 East 74th Street, New York, the complete automatic heating control job is Sarcotherm. The architects and engineers, Slingerland and Booss, called on Sarco's experienced engineering department to work with them and the mechanical contractor in working out components—controls, vacuum pumps and steam specialties. Besides setting up undivided responsibility of one manufacturer, this policy assured a balanced system with no weak links.

Accurate orifice calculations by Sarcotherm insured proper distribution of subatmospheric steam in the system, even in mild weather. Each of the 2 zones of this building is controlled by a Sarcotherm Continuous Flow Modulating Steam Control Valve. These valves meter the steam to furnish proper heat at any given outside temperature. Control Valves are influenced by outside temperature, wind velocity, and solar radiation, plus differential steam pressure between supply and return mains. A Master Control Panel supplies complete programming operation with automatic control for day, night and morning pickup cycles.

There is ample testimony to the sound judgment of the architects in making this a complete Sarcotherm vacuum heating control system. Since its first day of operation the installation at the new Avon House has been 100% trouble-free.

SARCOTHERM

An Affiliate of SARCO Co., Inc.

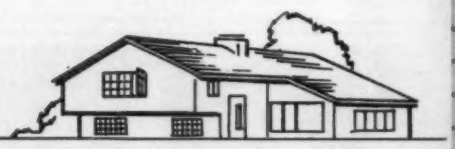
635 Madison Avenue, New York 22, N. Y.

6181-B

Look what you can do with
BILT-WELL'S

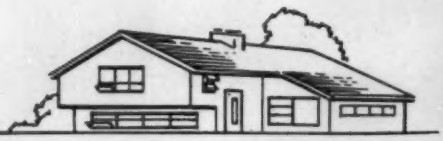
Arrangement of BILT-WELL Casements

a



Arrangement of BILT-WELL Awning Windows

b

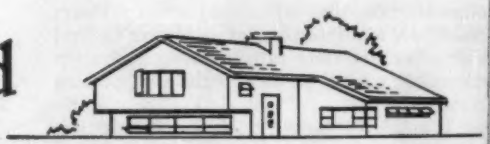


Arrangement of BILT-WELL Double-Hung Windows

c

Combination of BILT-WELL Windows

d



BILT-WELL
CASEMENT WINDOWS

BILT-WELL
AWNING WINDOWS

AWNING
HOPPER
FIXED
PICTURE

BILT-WELL
DOUBLE-HUNG
Super 7
REMOVABLE WINDOWS

The Harmonious Arrangement of

BILT-WELL Engineered Wood Products

Adds to the Appearance and Efficiency of Every Home

one basic house plan and.....

Design Flexibility

If you design houses for tract builders, you are probably well aware of the "look alike" problem. In attempting to solve this problem, how much consideration have you given to window arrangements?

Using the same basic floor plan, you can add a distinctive appearance to individual homes by taking advantage of the design flexibility offered by the BILT-WELL line of windows, doors and cabinets.

For Example: The sketches on the opposite page show the same basic house plan with four different window arrangements. The A version uses BILT-WELL Casement Windows, B is designed with BILT-WELL Awning Windows, C uses BILT-WELL Double-Hung Windows and D uses a combination of all three. Different designs of the popular New Orleans Front Door provide another variation in the exterior appearance of the homes.

Wherever storage areas are desired in the home.

Inside the house, standard BILT-WELL Cabinets are used to create two entirely different kitchens. And the same standard units are combined to supply solutions for a variety of storage problems throughout the home.

The DESIGN FLEXIBILITY inherent in the BILT-WELL line of wood windows, cabinets and doors is the result of a continuing program of product research and development, at BILT-WELL, geared to the advanced thinking of today's leading home designers and builders.

When you specify the complete line of BILT-WELL millwork you provide your homes with products that are unmatched in design, workmanship and operation. Products that have gained broad consumer acceptance through years of proven performance and regular national advertising.

All BILT-WELL Products are precision-machined from the finest woods, pre-fitted (where applicable) and delivered to the job site ready for easy, labor-saving installation.

Specify BILT-WELL WOOD WORK

THE BILT-WELL LINE: WINDOW UNITS, Double-Hung, Awning, Casement, Basement, Storm and Screen. CABINETS, Kitchen, Multiple-Use, Wardrobe, Storage, Vanity-Lavatory and Vinyl Counter-tops. DOORS, Exterior, Interior, Screen and Combination.

Ask your Building Supply Dealer about BILT-WELL today, or write:

CARR, ADAMS & COLLIER COMPANY

(SINCE 1866)
Dubuque, Iowa

For complete information on BILT-WELL Products see Sweet's Architectural 17c/Car and 24b/Car, or Sweet's Light Construction 5c/Car and 9a/Car.

continued from page 28

News From the Campus

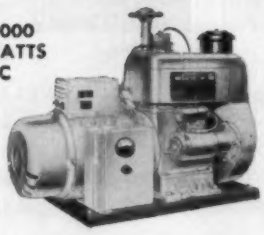
STUDENT ANNUAL: The 1957-58 *Student Annual*, the second in the series edited by architectural students to show work in the American schools of architecture, has been published by the American Institute of Architects. It may be ordered from the A.I.A for $3 a copy ($2 for students and libraries).

FACULTY APPOINTMENTS: Clemson College—joining the School of Architecture (recently elevated from departmental status): Ewart Arthur Wetherill, assistant professor of architectural design; Elbridge S. Gordon, instructor in art; Kirk Robins Craig, part-time design critic. . . . Cornell University—College of Architecture, critics, 1958-59: George Nemeny, Serge Petroff, Hansen & Thuesen, John Simonds, Richard Aeck, Fred Langhorst, Lloyd Flood, Fred Emmons, William Caudill, Dan Kiley, Caleb Hornbostel, Buckminster Fuller. . . . Illinois Institute of Technology—Alva C. Todd, lecturer in electrical engineering; Paul A. Thomas III, instructor in architecture. . . . University of Michigan—Serenus Glen Paulsen, associate professor of architecture; Robert C. Metcalf, assistant professor of architecture; Harold J. Borkin and Arthur P. Opperman, instructors in architecture; William A. Werner, visiting lecturer in architecture; Walter L. Chambers, professor of landscape architecture and chairman of the department; William J. Johnson, associate professor of landscape architecture; Wells I. Bennett, professor emeritus of architecture and dean emeritus of the College of Architecture and Design. . . . Rensselaer Polytechnic Institute—Alcoa Foundation Series visiting lecturers, 1958-59: Josef Albers, Fred N. Severud, Carl Feiss, R. K. Thomas, William B. Tabler, Minoru Yamasaki. . . . Syracuse University—Rolf G. Strahle, assistant professor of architecture; George T. Rockrise, visiting critic.

AWARDS: Frank P. Brown Medal of The Franklin Institute to Charles M. Spofford, professor emeritus, Massachusetts Institute of Technology, for his engineering, esthetic, and educational accomplishments. . . . National Institute for Architectural Education: William Emerson Memorial Prize to Gerald C. Gugini, Princeton '57, for his design of an interfaith chapel; ARCHITECTURAL RECORD Prize to L. G. Hildinger, Oklahoma State University, for the design of a resort hotel; First Prize sponsored by Tile Council of America to L. W. Rylee, Georgia Institute of Technology, for an outpatient rehabilitation center; First Kenneth M. Murchison Prize to J. S. Daley, Oklahoma State University, for a small office building in a tropical climate; 1958 Thesis Award to David B. Falconer, Yale University, for a boat yard. . . . First place, "Solite Competition Award" contest, sponsored by the Southern Light-Weight Aggregate Corporation, to Sinclair S. Hui, Virginia Polytechnic Institute. . . . Yale University: Everett Victor Meeks Graduate Fellowship in Architecture to Robert G. Ernest; Charles O. Matchem Fellowship to Robert M. Swedroe; Annie G. K. Garland scholarship to Folke E. Nyberg; William Sutherland McCay Fellowship to Stanford O. Anderson and Melvin Charney; Franklin U. Gregory Memorial Fellowship to William Ming Sing Lee; James Raymond Goodrich Prizes to John E. DeCell III and Peter S. Hockaday; H. I. Feldman Prize to David P. Jeffrey; Alumni Fellowships to Thomas G. Green, David L. Niland, Thomas E. Woodward, department of architecture, Konrad Perlman, section of city planning.

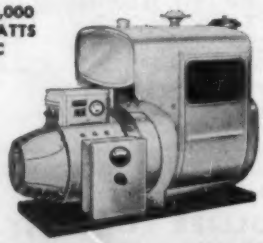
Low-cost, Dependable Power-
Stand-by, Primary, Portable

5,000 WATTS AC



OTHER MODELS FROM 500 WATTS to 100 KW—all voltages and phases.

10,000 WATTS AC

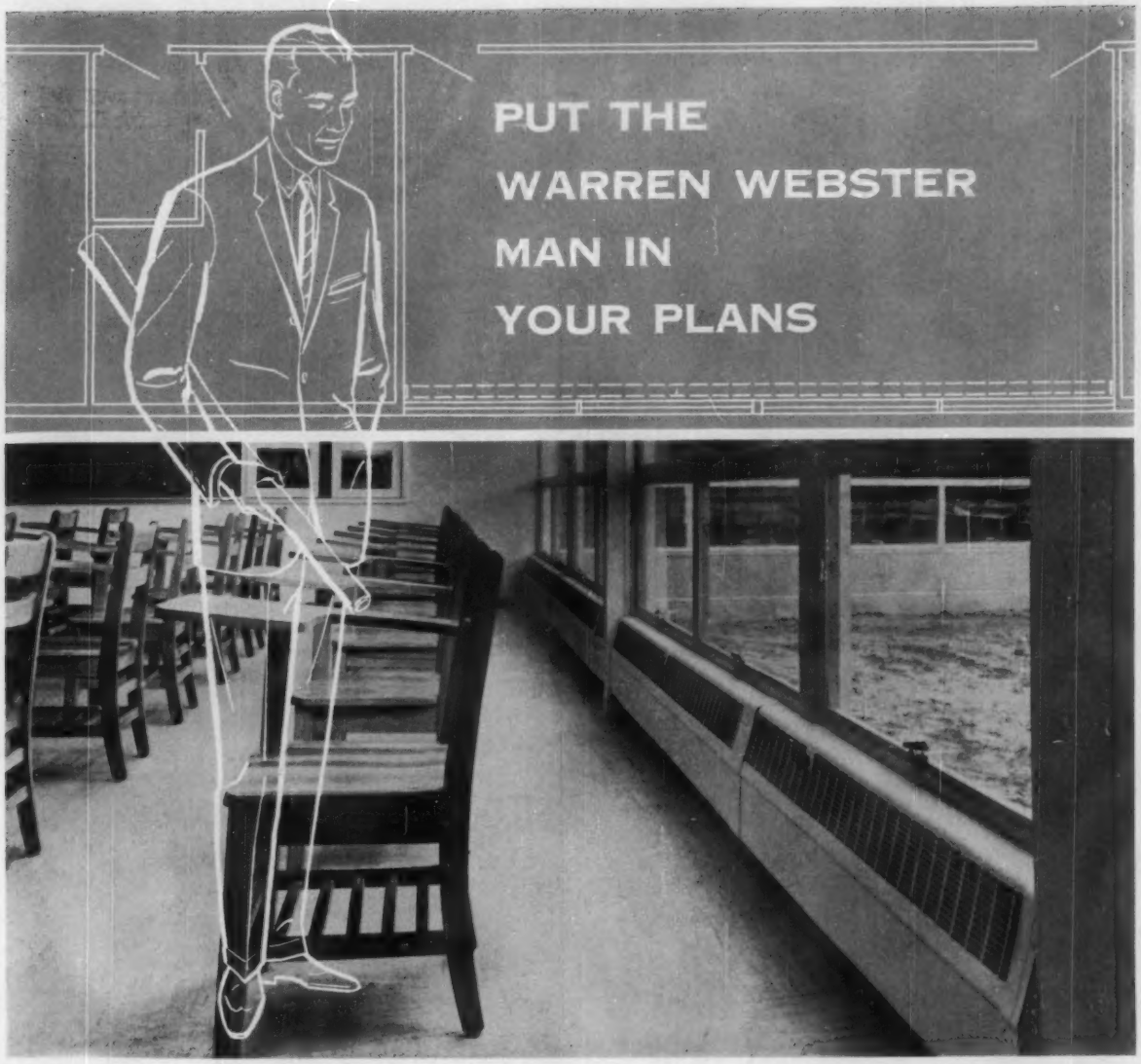


FOR HOMES . . . ESTATES . . . HOSPITALS . . . SCHOOLS . . . STORES . . . HOTELS . . . RESORTS . . . THEATERS . . . BUILDINGS!

Power failures always occur when you least expect them. When a WINPOWER Plant is on the job, it takes over instantly through automatic line transfer controls when regular power fails. No interruption to lighting, heating, refrigeration, elevator operation or other electrical services.

Get the facts about WINPOWER LOW COST STAND-BY GENERATOR PLANTS without cost or obligation. Attach this ad to your letterhead and mail today for illustrated literature and complete information.

WINPOWER MFG. CO., Dept. AR, NEWTON, IOWA



Walvector Stretches Out Your Heating Dollar

Where low operating costs and high comfort heating are major considerations, Webster Walvector meets every specification. Fuel dollars go farther, because Webster Walvector eliminates hot-and-cold spots, ends drafts, spreads uniform clean heat without waste.

Installation dollars go farther, too. Long lengths go in fast . . . trim pieces and accessories take care of offsets, jogs and bays. You need fewer risers . . . a minimum of piping . . . and no hung ceilings or furred columns to hide piping.

Yes, your heating dollar goes farther, more comfortably, when your Warren Webster Man puts Webster Walvector in your plans. Ask him for the exciting details. Or write for Bulletin B-1551. Warren Webster & Company, Camden 5, New Jersey. Since 1888. Offices in principal U.S. cities and Canada.

WEBSTER'S
FINEST
PRODUCT

the Warren Webster Man

WARREN WEBSTER

HEATING . . . COOLING

Prestige Photographers—No. 1 in a series, at the right, Dick Boyer, one of Chicago's top creative photographers, who holds the Chicago artists guild Gold Brush award for Artistic Achievement. A teak panel by Stem furnishes a background of elegance for this self-portrait.

PRESTIGE VENEER ...THE TRADITION OF TEAK

Capture Teak's royal elegance by specifying STEM veneer from actual samples

The tradition of Teak goes back thousands of years—the fury and glory of history, ages of romantic legends, beauty that has graced emperors' palaces—all are distilled in the Teak veneers manufactured by Stem. On any project requiring 1,000 square feet or more of fine wood wall paneling Stem affords the important and additional means of capturing fully this royal tradition of elegance by specifying from actual log samples the veneer of your choice. You can be sure of just the right color gradation—just the right configuration of grain—the perfect background. Stem offers the *world's largest collection* of architectural flitches (a log or part of a log cut into veneers) from which you can choose Teak and many other fine, rare architectural veneers. If you identify in your original specifications the selected flitches by wood specie and flitch number, only then can you be comfortable in your confidence that the finished installation will achieve the full elegance and nobility to which you are entitled when you select a decorative background with royal tradition. Don't compromise for less. CHESTER B. STEM, INC., NEW ALBANY, INDIANA.

RARE WOODS FROM STEM

New Boys' Clubs Cover Country In $10.3 Million Program

The Boys' Clubs of America are currently engaged in the largest building program in the history of the organization (it was founded in 1906). About $10.3 million had been spent by August 31 of this year on 10 new buildings ($2.9 million), five additions, and six camp projects completed, plus 26 new buildings ($6 million), 16 additions, and four camps under construction. Similar expenditures during 1957 totaled $8.3 million. Facilities in nearly 40 cities throughout the country are involved in the program. There are now more than 500 boys' clubs with a membership of about 600,000.

The Robert E. Wood Chicago Boys' Club. Perkins & Will, architects; B & W Construction Company, Chicago, general contractor. Cost: $978,000

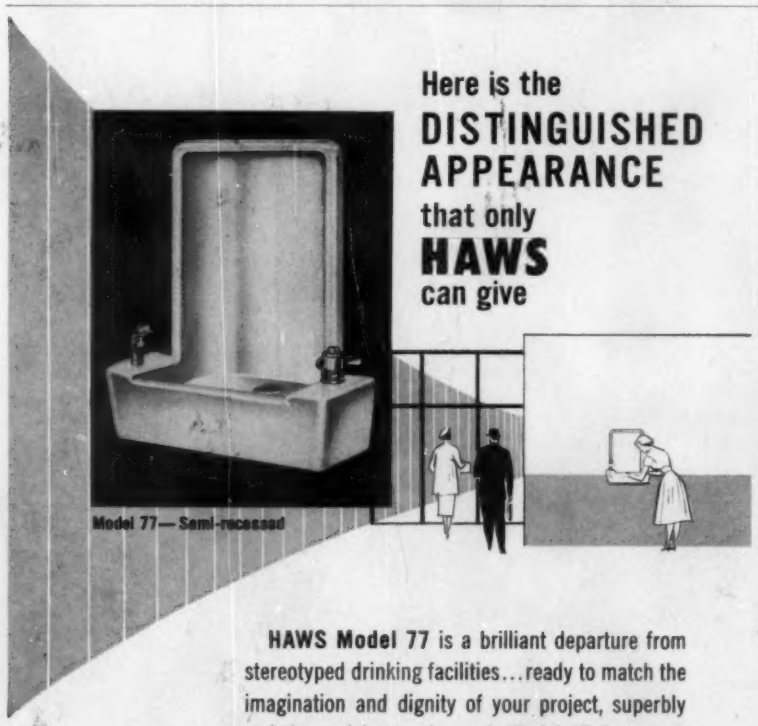
Each club selects its own architect because building funds are raised locally. The central office in New York, however, maintains a Building Service Department which acts in an advisory capacity to all clubs. Typical plans for clubs of all sizes and a volume of standard details are made available. Preliminary drawings are then submitted to the organization's Building Consultation Service for review, as are working drawing specifications.

The Southern Area Boys' Club, Los Angeles. Kistner, Wright & Wright, architects; Myers Bros., Los Angeles, general contractor. Cost: $196,000 (excl. equipment)

The Building Service Department

The Boys' Club of New Bedford, Mass. Bishop & Hackett, archs. Est. cost: $700,000

also has put together a 34-page manual "establishing principles for guidance of Boys' Clubs, their architects, engineers, and builders contemplating new building projects." The various types of areas in a club and their requirements are described; included is a table of finishing materials showing "desirable" and "satisfactory" materials for floors, wainscots, walls, and ceilings, by room types.



HAWS Model 77 is a brilliant departure from stereotyped drinking facilities...ready to match the imagination and dignity of your project, superbly styled, precision-engineered. Model 77 is a semi-recessed wall fountain—in durable vitreous china, available in striking colors, with automatic volume and pressure controls. And the same design is available in stainless steel (Model 73); or in remarkably tough, lightweight fiberglass (Model 69, in choice of colors at no extra cost).

For nearly 50 years, HAWS has provided finer drinking facilities to match forward-looking architectural design. Here's a design in vitreous china, stainless steel and fiberglass worthy of your attention.

WRITE FOR DETAILS
Ask for HAWS complete new catalog, too!

HAWS DRINKING FAUCET COMPANY
1441 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA

WHERE SO MUCH IS AT STAKE . . .

CORBIN AUTOMATIC EXIT FIXTURES

SPECIFY UNFAILING PERFORMANCE

You can always be sure when you specify from the complete line of Corbin Automatic Exit Fixtures. Each one is designed to release on touch — provide unfailing performance in time of emergency. ✦ ✦ ✦ Made in solid brass, bronze, aluminum, iron and steel, Corbin Automatic Exit Fixtures meet the exacting requirements of schools, churches, theatres, and other public buildings. A choice of rim or mortise types for use on single doors, double doors, and double doors with removable mullion — a variety of outside trim to harmonize with any architectural style.

Where so much is at stake, specify Corbin automatic exit fixtures to safeguard your buildings. Your dealer has full details. P. & F. Corbin Division, The American Hardware Corporation, New Britain, Connecticut. Good Buildings Deserve Corbin Hardware.

CORBIN

Another "first" from Roddis

NOW...a flush veneered C-LABEL fire door!

Now architects can get all the beauty of a flush veneered wood door . . . ¾ hour Underwriters approved . . . with Light Openings as large as 30″x40″. Every door guaranteed for the life of the installation.

From the advanced door research program of Roddis comes another development of importance to America's architects—

Roddis now makes available, for the first time in the industry, an all-wood, flush veneered, ¾ hour fire door. It's the new Golden Dowel C-label Fire Door!

For use in interior walls of corridors, or for room partitions, this C-label door gives you all the richness and beauty of a wood veneered door . . . plus excellent fire protection . . . at a considerable savings over the more costly B-label door.

The core of this amazing new door is made by a *patented* Roddis process. Special, fire-proofed wood particles are bonded with a waterproof, thermo-setting resin under heat and pressure. Then each side is faced with two-ply veneer panels. This exclusive construction has earned the C-label classification from the Underwriters' Laboratories.

What's more, you can have larger light openings with the Golden Dowel C-label door than are possible with a B-label door. Vision openings up to 1,200 square inches have been approved by Underwriters for this new door. And Roddis will cut them and supply the complete panel assembly for you. (Standard sizes, 30″x40″, 30″x36″, 24″x36″, 18″x30″, 8″x12″, 10″x10″.)

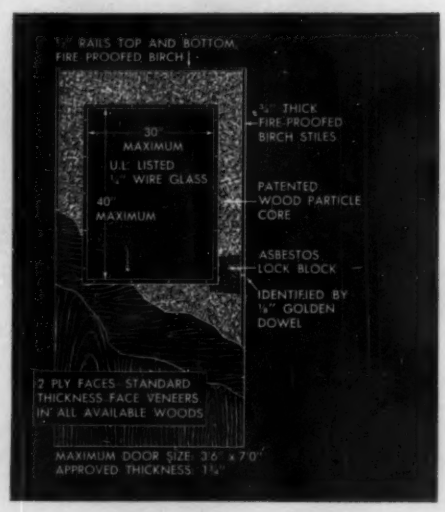
You enhance your designs, assure protection and lower costs for your clients when you specify the new Roddis flush veneered, C-label Fire Door. And remember . . . the GOLDEN DOWEL means "guaranteed for the life of the installation".

For complete details and specifications send coupon below.

COMPLETE CUSTOM PRE-FINISHING!
from the prime-and-seal coat to the final finish coat

For maximum factory-to-installation protection, finer end results, you can specify your Roddis Doors *primed and sealed* at our factory before shipment. Roddis' new, automated production line applies a special synthetic resin sealer to the double-sanded, dust-free doors. After drying, the doors are sanded again to emerge with a tough, smooth undercoat that assures a perfect on-the-job finish application.

Completely pre-finished doors are also available. You can specify doors finished in color tones to match any of the 9 woods in the Roddis Craftwall paneling line . . . or to match your own color sample.


FIRE-PROOFED BIRCH
30" MAXIMUM
U.L. LISTED WIRE GLASS
40" MAXIMUM
THICK FIRE-PROOFED BIRCH STILES
PATENTED WOOD PARTICLE CORE
ASBESTOS LOCK BLOCK
IDENTIFIED BY GOLDEN DOWEL
2 PLY FACES STANDARD THICKNESS FACE VENEERS IN ALL AVAILABLE WOODS
MAXIMUM DOOR SIZE 3'6" x 7'0"
APPROVED THICKNESS 1¾"

ONE SOURCE FOR ALL YOUR WOOD DOOR NEEDS

High standards of workmanship and beauty over the years have established famous Roddis Doors as first choice among architects and builders. Choose from the most complete line of wood doors in the field . . .

HOLLOW CORE **B and C-LABEL FIRE DOORS** **INSTITUTIONAL**
SOLID CORE **X-RAY**

BEAUTY...STRENGTH...PROTECTION

Construction of new Golden Dowel C-label Fire Door includes patented, fire-proofed wood particle core of exceptional strength and stability. Asbestos lock block marked with Golden Dowel. 2-ply faces in standard thickness face veneers. Wide choice of first grade woods. Light openings up to 30″x40″. ¾-hour protection approved by Underwriters' Laboratories.

RODDIS PLYWOOD CORP.
Marshfield, Wis.
Dept. AR-1158

Please send complete information on new Roddis Golden Dowel C-label Fire Door.

NAME_____

FIRM_____

ADDRESS_____

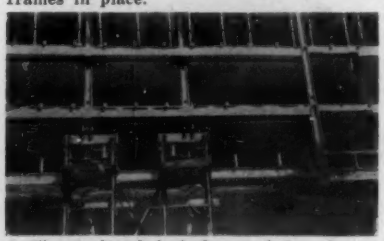
CITY_____ STATE_____

Changing the Older Order

For several weeks this summer alert New York pedestrians passing the corner of Fifth Avenue and Forty-Fourth Street were treated to the spectacle of two enormous doric columns standing in lonely splendor, seemingly the last guardians of a vanishing tradition, within the steel skeleton of a building that had been stripped of all other masonry. The steel skeleton was to be utilized in the construction of the new Bankers Trust Co. building, but the columns, prominent features of the older building designed by Henry Ives Cobb in 1906, had proved to be functional as well as decorative. It was not possible to remove them until the steelwork they were supporting had been placed on jacks and raised one inch. Once the building had been lifted, the jacks locked, the columns were laboriously chipped away and construction proceeded; but one could not help feeling that, somehow, tradition had had the last laugh.

1. The original building as it appeared in the Record in 1907

2. The columns, which weighed an estimated thirty tons apiece, with the supporting frames in place.



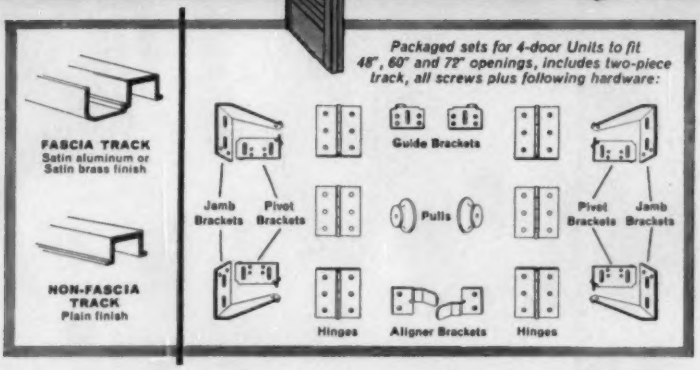
3. The steelwork jacked up and the columns removed

4. A rendering of the new building. Emory Roth and Sons are the architects

QUALITY

that is typically Sterling HARDWARE

...now in new FOLDING DOOR HARDWARE



NOTHING ON THE FLOOR!
Jamb brackets eliminate track and pivot plates on floor. Aligner brackets mount on doors.

NO HOLES TO RE-DRILL!
Door pivots are mounted on jambs—track can be cut to fit opening without interfering with door pivots.

EASIEST INSTALLATION!
Pivot brackets fit corners of doors. No templates necessary.

TROUBLE-FREE PERFORMANCE!
Doors fold back at a finger-touch. Nylon guide brackets provide smoothest, quietest operation. Aligner brackets keep doors flush.

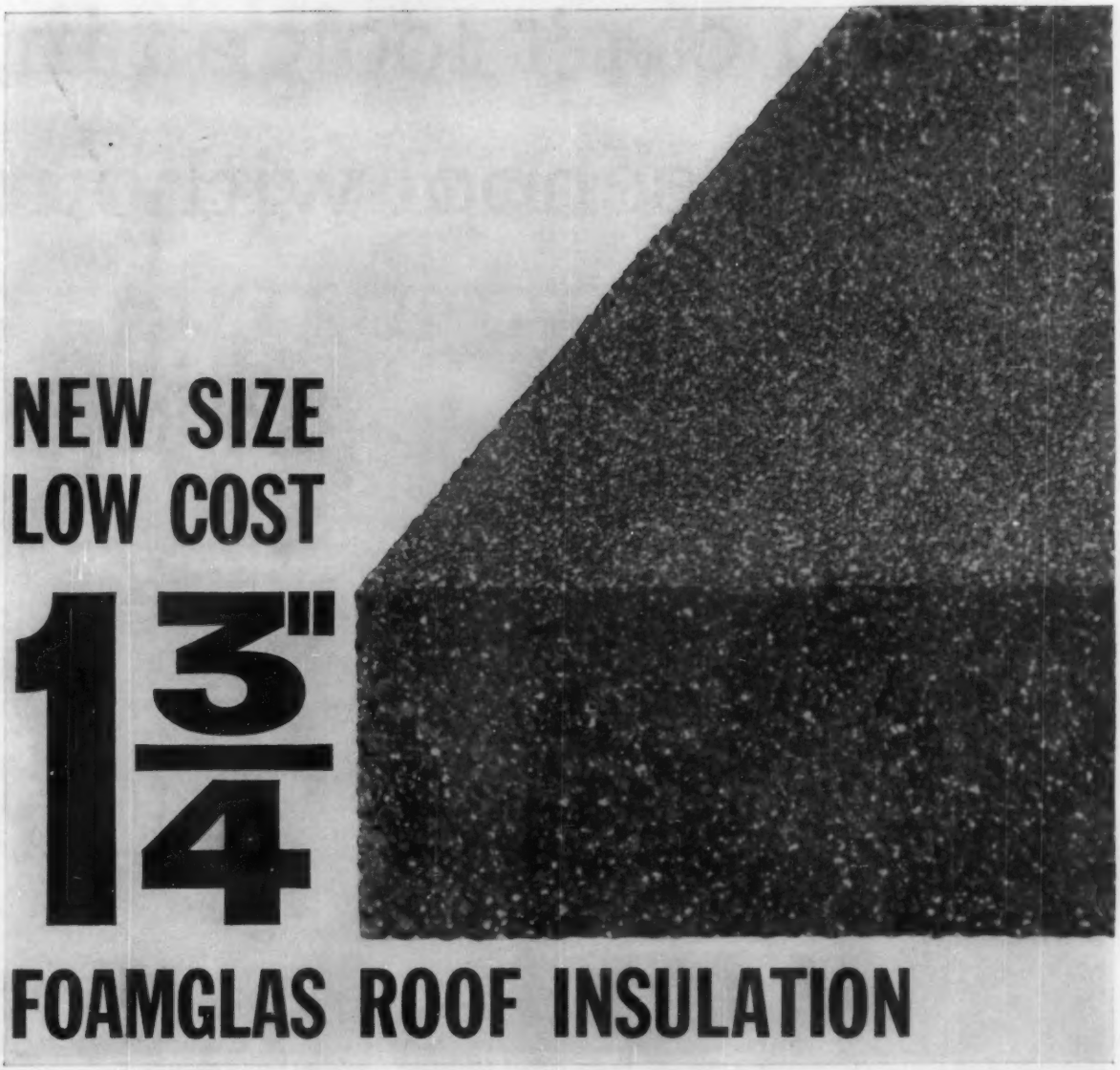
FOR ALL WOOD FOLDING CLOSET DOORS ¼" TO 1¾"

Also packaged sets for 2-door units. (To fit 24", 30" and 36" openings.)

WRITE TODAY FOR LITERATURE

John Sterling Corporation

RICHMOND, ILLINOIS



NEW SIZE LOW COST 1 3/4" FOAMGLAS ROOF INSULATION

Now you can use FOAMGLAS® on roofs requiring less than 2″ of insulation. This unique, multi-benefit insulation is available in a thickness of 1¾″. And this new thickness makes possible a new 25% lower price.

With the new 1¾″ FOAMGLAS, you enjoy the same insulating efficiency at the same cost per square foot installed as with any other insulation board, including wood fiber. One reason is the low cost of the new thickness. Another is that FOAMGLAS does not require the vapor barrier recommended with other insulating boards. The closed cells of FOAMGLAS form a natural vapor barrier which maintains original thermal efficiency.

And, the new 1¾″ thickness retains all of the many extra benefits of FOAMGLAS roof insulation. It is strong enough to take all roof and traffic loads during and after installation, but it is lightweight for easier handling. It can't burn. It is easy to cut and fit . . . and a new quick opening carton eliminates bothersome paper separators.

Write today for complete information on this new roof insulation development by Pittsburgh Corning Corporation, Dept. B-118, One Gateway Center, Pittsburgh 22, Pennsylvania.

PC Glass Blocks are another outstanding building product of Pittsburgh Corning Corporation.

PITTSBURGH PC CORNING

you can't look at, in, a school without

East Side School, Niles, Mich. Edward R. Duffield, A. I. A., Niles, Mich.

A CHOICE OF WALL SYSTEMS TO SUIT YOUR BUILDING AND YOUR BUDGET

Shown is a Kawneer Unit Wall, the pre-engineered, pre-fabricated wall system. It is only one of many Kawneer wall systems designed for schools. They range from the simple systems that are cut and fabricated for the job to precision-engineered, custom pre-fabricated systems. If insulated or facing panels are required, Kawneer can supply a wide range of colors. Each has its own particular advantages for certain types of buildings. That includes the price.

through or out of seeing applications for KAWNEER products!

the quality is artistocratic, and prices are now plebeian!

Look at the entrances . . . Here are doors that can withstand those repeated school's-out explosions longer than any other. It's either the Kawneer Wide Stile School Door—a rugged door with a clean, attractive design—or the durable Narrow Stile that's serving in many schools. Either can be equipped with a Kawneer Panic device. Kawneer has available the widest range of doors in the industry including type and color. Of course, frames are built of trim Kawneer Narrow Line members, whose lines harmonize with either door.

Look at the color trim . . . It may be Kawneer Zourite, a ribbed wall facing material that comes in a wide range of standard colors. Or it may be Kawneer Colorwall—panels faced with porcelainized steel or aluminum.

Look at the inner doors . . . The double doors inside the entrances and the office doors may be Kawneer Narrow Stile Doors. They combine sleek, slim lines with great strength. Spots of color may be added with Kawneer Color Glass Stops, with matching or contrasting Colorware Door Hardware. Kawneer Triple-Strength Flush Doors—plain or with single or multiple lights and louvers are available, too.

Look outdoors . . . Weather protection can be supplied by Kawneer Walk Covers. The sun control devices protecting the windows are Kawneer K-Louver sun shades.

Look in the laboratories, lavatories and shower rooms . . . There's Kawneer Colorwall again, doing the job that tile used to do, and at much less cost! Its myriad colors make the rooms bright and attractive, and it wipes clean with the whisk of a damp cloth.

Look down the halls . . . Where glazed areas separate rooms from the halls, Kawneer Division Bars or Narrow Line glazing members hold the lights of glass. Kawneer furnishes a complete line of doors, trophy and poster cases.

Everywhere in schools, there's a place for products with the "Kawneer Touch."

FREE! TEMPLATE TO REDUCE DRAFTING TIME
plus complete information on Kawneer School Products

Serving Architecture and Industry
Kawneer
General Offices NILES, MICHIGAN
ARCHITECTURAL PRODUCTS DIVISION
since 1906

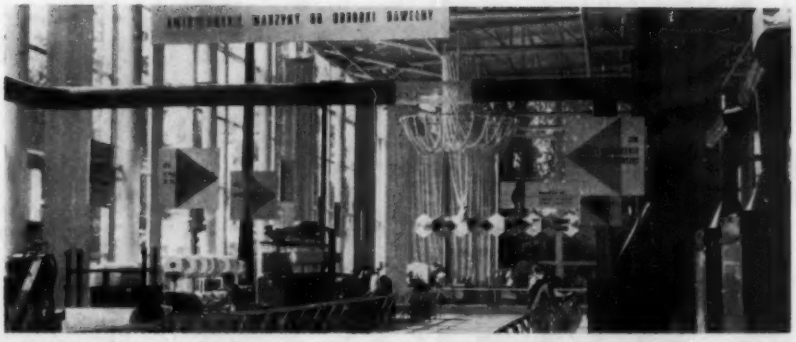
THE KAWNEER COMPANY
Department AR-118
Niles, Michigan

Please send me:
☐ **FREE template to reduce drafting time**
Please send me complete information about:
☐ Kawneer Wall Systems for Schools
☐ Kawneer Doors for Schools
☐ Kawneer Walk Covers and Sun Control Devices for Schools
☐ Kawneer Zourite and Colorwall for Schools
☐ Kawneer Sash and Division Bars for Glazed Areas and Entrances
☐ Kawneer Trophy Case Doors for Schools

*Name*_____
*Firm Name*_____
*Address*_____
*City*_____ *State*_____

Trade Fair Building in Poland Is Permanent U.S. Exhibit

The large U. S. pavilion shown here and a smaller one next to it are permanent structures in Poland for American exhibits and offices. They were part of the recent American-sponsored International Trade Fair in Poznan for which all buildings and exhibits were designed by Reino Aarnio, A.I.A., New York architect and industrial designer. Severud, Elstad & Kruger were structural engineers; Fred S. Dubin Associates were mechanical engineers.



Fabricated in Italy, the large building is steel with three walls of glass supported by vertical aluminum frame members; the other wall is of asbestos paneling. Unobstructed exhibit space is achieved by means of welded tubular steel trusses fastened to round steel columns on the perimeter. The concrete floor slab is laid over electrical ducts. The building is 170 ft long, 95 ft wide, and 32 ft high.

Exhibits included cotton spinning and weaving (shown in top picture), millworking, a library, and television.

The fair gave American business an opportunity to exhibit products and processes behind the "iron curtain." "Technology in the Service of Mankind" was the theme.

CAFETERIA • HIGH SCHOOL • BIRMINGHAM, MICHIGAN SWANSON ASSOCIATES • ARCHITECTS
FOOD SERVICE CONSULTANTS • J. E. STEPHENS ASSOCIATES

Van equipped food service of modern Michigan high school

★ Built to serve a fast-growing suburb of Detroit, this huge school plant, which now has facilities for 1200 students and provides for expansion up to 1800, has been featured by the magazine PROGRESSIVE ARCHITECTURE as an excellent example of an ultra-modern high school.

★ The cafeteria illustrated above . . . entirely of shining stainless metal . . . is located on the ground floor adjacent to the kitchen . . . both of which were equipped by Van. This is another shining example of an outstanding food service operation where you expect to find the Van name plate.

★ When you have food service equipment needs . . . be sure to make use of Van's *century of experience*. Call Van in early.

The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

Branches in Principal Cities

429 CULVERT STREET CINCINNATI 2, OHIO

One of 4 schools in the Ontario School District, Cal. for which Rilco supplied laminated pitched and tapered beams. Architect: Jay Dewey Hamish; Contractor: Hoefer Construction Company.

Schools with RILCO are Beautiful Fire Safe Economical

One of the schools shown here was built for $7.75 per sq. ft., one cost $10.24, another $7.30, that's economy. The beauty of Rilco laminated wood members is a plus — a beauty only wood can offer. There is no institutional chill — warmth of wood that mellows with age makes youngsters feel at home.

Rilco arches, beams and trusses help reduce erection time and costs — delivered carefully wrapped for protection—drilled for furnished hardware, they go up *fast* with regular job-site labor. Maintenance free — laminated wood is not subject to chemical change, rust, corrosion, splitting or warping.

Fire resistant Rilco laminated wood, arches, beams and Rilco Deck are slow to burn, won't collapse under high temperatures — allow time to save structure and contents.

Rilco laminated wood members bring all three *Beauty*, *Fire Safety*, *Economy* to any school. For more information on building *bigger* and *better* for *less* contact your closest Rilco office.

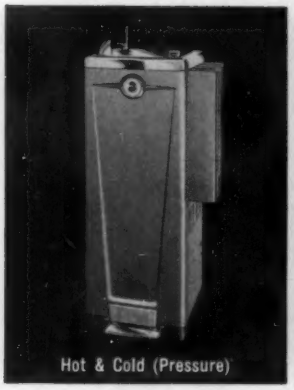
RILCO
works wonders with wood

RILCO LAMINATED PRODUCTS, INC.
W818 FIRST NATIONAL BANK BUILDING, ST. PAUL 1, MINNESOTA
District offices: Newark, N. J. • Fort Wayne, Ind. • Tacoma, Wash.

Banner County High School, Harrisburg, Nebraska was built for $10.24 sq. ft. including all fixed equipment. Architect: Robert Ditzen; Contractor: Fullen Construction Co.

Total cost was $7.75 sq. ft. to construct St. Joseph's School, McPherson, Kansas. Architect: Robert E. Marr; General Contractor: Frank Jackson.

Gymnasium of Kiowa Elementary School, Kiowa, Colorado. School was built at a cost of $7.30 sq. ft. Architect: Robert W. Ditzen; Contractor: Broadway Construction Co.


Hot & Cold (Pressure)

Air-Cooled 5-gal. capacity

Compartment (Bottle)

Water-Cooled 14-gal. capacity

More people drink from WESTINGHOUSE WATER COOLERS than from any other brand!

That's because there's exactly the right type and size Westinghouse Water Cooler for every need

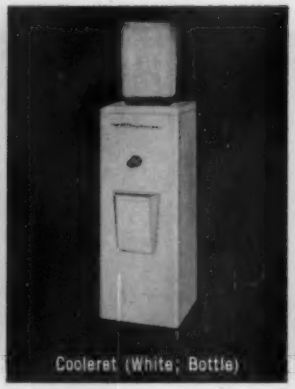
Explosion-Proof (Stainless Steel)

Cooleret (Gray; Pressure)

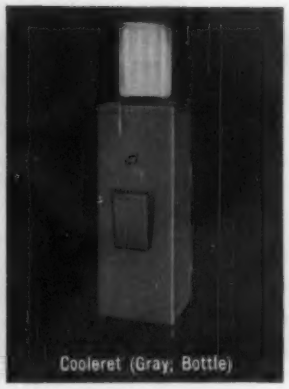
"Bilt-In" 10-gal. capacity

Air-Cooled 17-gal. capacity

Hot & Cold (Bottle)


Cooleret (White; Bottle)

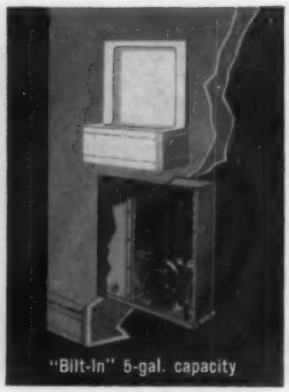
Hot & Cold Compartment (Bottle)

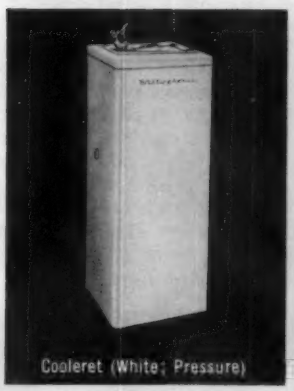

Cooleret (Gray; Bottle)

Air-Cooled 8-gal. capacity

Compartment (Pressure)

Bottle Cooler 3-gal. capacity


"Bilt-In" 5-gal. capacity


Cooleret (White; Pressure)

Water-Cooled 20-gal. capacity

Explosion-Proof 14-gal. capacity

Air-Cooled 13-gal. capacity

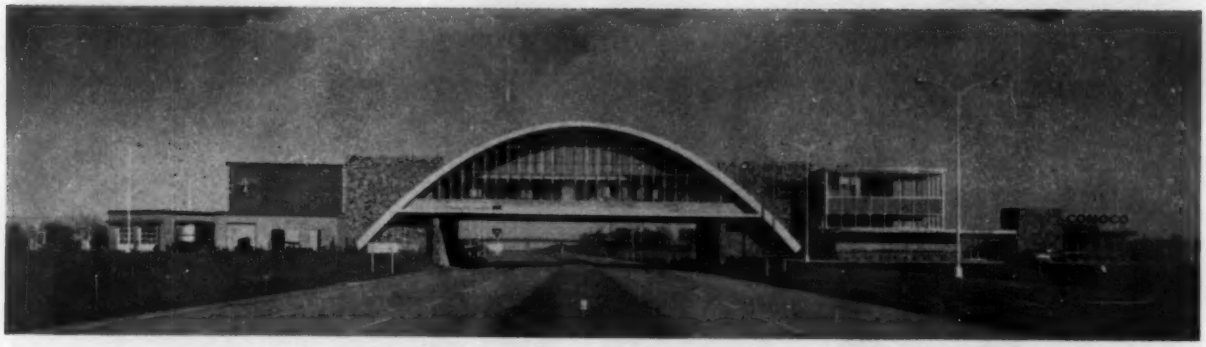
Explosion-Proof 8-gal. capacity

Pick the cooler that suits you best . . . built by the company that has led the way in water coolers for over 25 years . . . Westinghouse. Choose from 21 handsome models designed with all the most advanced features for greater convenience, efficiency, economy.

Westinghouse Water Coolers are available through AMSTAN, Noland and other leading plumbing wholesalers. Also through all branches of Westinghouse Electric Supply Co. Ask them about the *Special Westinghouse Offer* for architectural firms. They're listed in the Yellow Pages.

YOU CAN BE SURE...IF IT'S **Westinghouse**

Westinghouse Electric Corporation, Water Cooler Dept., Springfield 2, Mass.



Arch Gives Oklahoma Restaurant Both-Way Turnpike Access

Spanning the Will Rogers Turnpike near Vinita, Okla., is the Continental Oil Company's new service center-restaurant. Hudgens, Thompson and Ball, Oklahoma City architects, designed the structure for the Oklahoma Turnpike Authority; general contractors were Lippert Brothers, Oklahoma City. The cost was about $2 million.

The building solves the access problem, since it can be used by motorists going either way. The arch, 52 ft high at the center, forms the ceiling and two sides of the restaurant; it is a 4-in. reinforced concrete shell constructed integrally with four arches 3 ft thick at the base and 1 ft 9 in. at the crown. Glass walls with aluminum settings form the other two sides.

The independent 4-in. reinforced concrete floor rests on retaining walls and stretches 100 ft across the highway; it is 69 ft wide. It was poured with 11 post-tension concrete beams.

A cafeteria (below) and dining room under the arch are reached by moving stairways (below), stairs, and elevators from either side. A Conoco station is on each side.

HUSSEY SAFE SEATING CLOSED DECK

...BECAUSE THERE IS:

★ **LESS CHANCE FOR PERSONAL INJURY.** There are no openings in the CLOSED DECK to slip through, to catch high heels in, to wrench ankles, or to cause fear of height. Excited spectators are on solid footing.

★ **LESS FIRE HAZARD.** Trash cannot fall through to the floor, where a fire could start and smoulder unnoticed.

★ **A NEW POSITIVE MECHANICAL LOCKING DEVICE.** When the stand is opened, steel dogs automatically lock into place to make the tiers into one solid, rigid unit that cannot be closed without use of a special key. This makes less-positive friction locks obsolete.

★ **BOX GIRDER AND TRUSS TYPE CONSTRUCTION.** The safety factor is over 9 to 1. A single 16′ seat for 12 persons will support over 12,220 lbs. with minimum deflection. All load carrying members have steel-to-steel connections.

★ **A VERTICAL FRONT IN THE CLOSED POSITION.** This eliminates hazards of leg injuries during gym classes or at dances.

THAT'S WHY PUBLIC LIABILITY INSURANCE FIRMS GIVE A LOWER OVER-ALL "JUDGMENT RATE" WHEN HUSSEY CLOSED DECK ROLL-OUTS ARE USED.

A.I.A. File No. 35-F-11

Ask for free catalog or see Sweet's 23J/HU

HUSSEY MFG. CO., INC.

587 Railroad Avenue **North Berwick, Maine**

Yes, translucent Barclite is a design natural... glorifying the leaf, the fern, the butterfly and designer fabrics in the finest reinforced fiberglass panels. And,captivating Barclite is so easy to install... offers endless versatility for home and commercial design as screens, light panels, sliding doors, dropped ceilings. Barclite is causing a sensation. It can help build your reputation, too. Write for free samples and consultation.

BARCLITE CORPORATION OF AMERICA

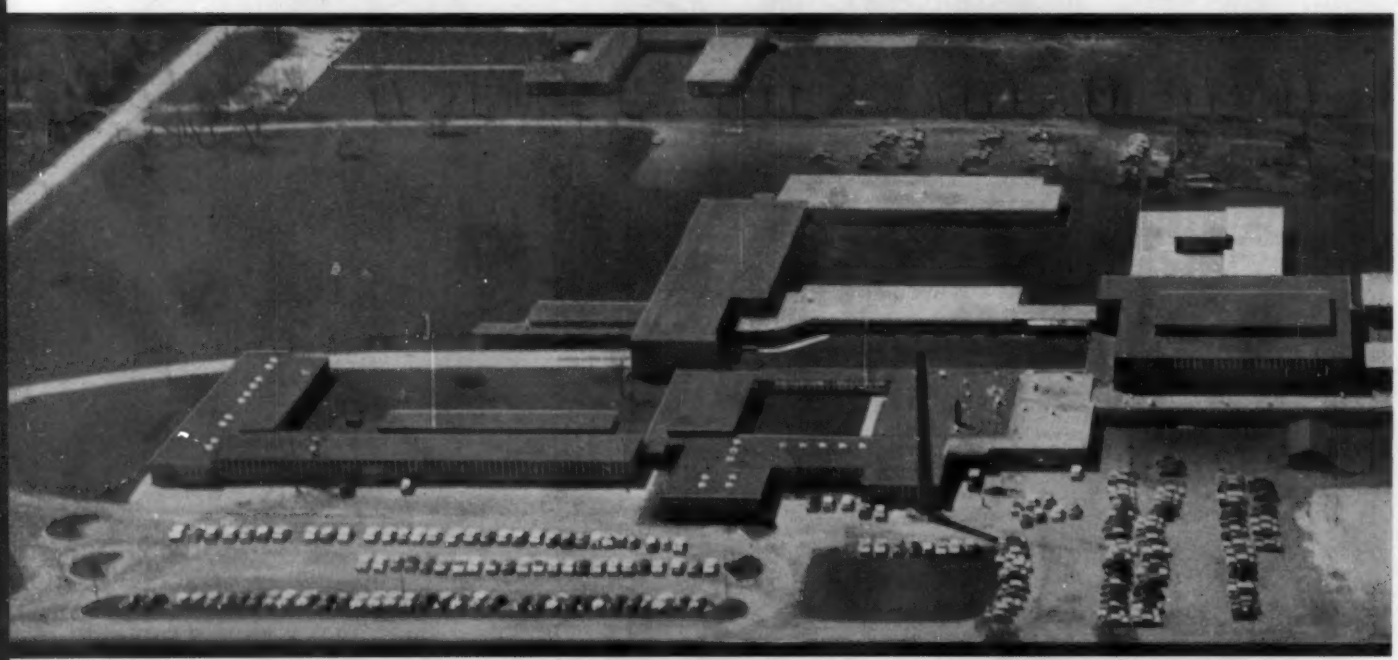
Dept. AR-11, Barclay Building, New York 51, N. Y.

Designing Schools?

Here's why to specify

For Maximum Incombustibility: Fire-proofing is a critical requirement in school construction. Because Fesco Board is formed of all-mineral Perlite, processed at temperatures in excess of 1700° F, it provides the ultimate in incombustibility, exceeding the maximum code ratings. Even under extreme temperatures Fesco Board remains physically stable, contributing importantly to fire containment. Fesco Board carries the label of Underwriters' Laboratories, Inc.

ARCHITECT — PERKINS & WILL
Chicago, Illinois



JOB — GLENBROOK HIGH SCHOOL
Glenview, Illinois

GENERAL CONTRACTOR — JOSEPH J. DUFFY CO.
Tinley Park, Illinois

ROOFER — BROWN & KERR
Evanston, Illinois

FOOTAGE — 114,325 sq. ft.

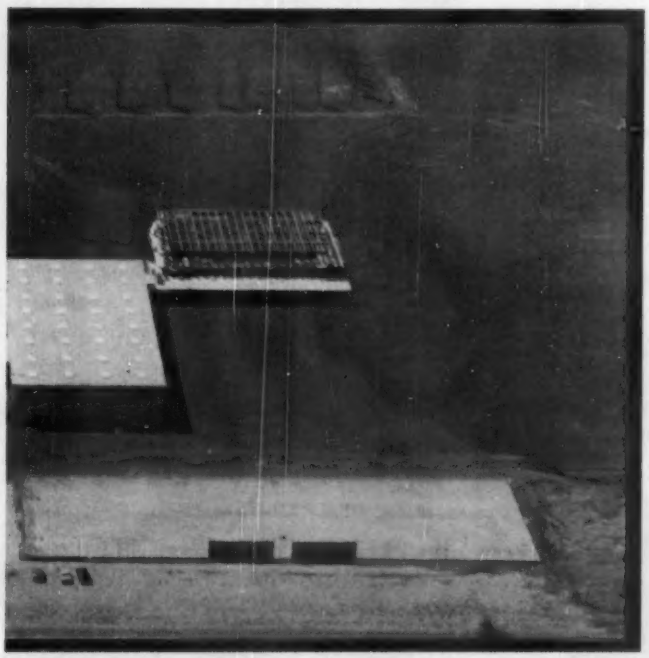
AFFILIATED WITH THE AMERICAN INSTITUTE OF ARCHITECTS
THE PRODUCERS' COUNCIL
MEMBER

FESCO® Roof Insulation BOARD

For Maximum Moisture Resistance: The varying loads of temperature and humidity, characteristic of school occupancy, impose extreme requirements on roof insulation. Fesco Board is designed specifically to meet these extremes in moisture load. Being formed principally of air-entrained beads of glass it has no capillary action. On total immersion for 2 hours Fesco Board absorbs only .06% water by volume. This is vitally important because as the moisture content of insulation rises its insulation value drops.

For Maximum Adaptability: Fesco Board can be applied over any structural membrane — wood, pre-cast slabs, gypsum, steel, etc. It is therefore suitable for all types of school construction in all price ranges.

For Maximum Value: Though Fesco Board has the highest overall performance rating of any roof insulation, it is not the most costly. Because of its permanence, and its speed of application, Fesco Board can be used on the lowest budget school.



Heat Transmission (U) Values

Construction: Roof Deck Type and Thickness	Without Ceiling Underside of Roof Exposed					With Metal Lath & Gypsum Perlite Plaster Ceiling				
	Insulated with Fesco Board					Insulated with Fesco Board				
Fesco Thickness	2½"	2"	1½"	1"	¾"	¾"	1"	1½"	2"	2½"
4" Concrete	.11	.14	.17	.22	.27	.19	.17	.14	.11	.10
6" Concrete	.11	.13	.16	.22	.26	.19	.16	.13	.11	.10
1" Wood	.10	.12	.15	.19	.22	.16	.15	.12	.10	.09
2" Wood	.09	.11	.12	.15	.17	.14	.12	.11	.09	.08
3" Wood	.08	.09	.11	.13	.14	.12	.11	.09	.08	.07
2½" Gypsum Fiber Concrete over ½" Gypsum Board	.10	.11	.13	.16	.19	.15	.13	.11	.10	.08
2½" Gypsum Fiber Concrete over 1" Rigid Ins. Board	.08	.09	.10	.12	.13	.11	.10	.09	.08	.07
2" Perlite Concrete (1:6) on Steel form	.08	.10	.11	.13	.15	.12	.11	.10	.08	.07
6" Hollow Core Precast Slab	.11	.13	.16	.20	.24	.18	.16	.13	.11	.09
Steel	.12	.14	.18	.24	.29	.21	.18	.14	.12	.10

1. U values are expressed in BTU/SQ. Ft./Hr./Degrees F temperature diffferential, still air inside and 15 MPH wind velocity outside.

2. Coefficients and procedures used for determining U values are in accordance with current edition of A.S.H.V.E. Guide.

3. For suspended plaster ceiling section, air space between ceiling and deck assumed to be from ¾" to 4".

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE OR WRITE FOR COPY

F. E. Schundler & Company, Inc.

504 RAILROAD STREET • JOLIET, ILLINOIS

RATED FIREPROOF MATERIALS, ACOUSTICAL & INSULATING

Developers and producers of incombustible mineral products including Ebbtone Acoustical Tile, Fesco Insulation Board, Coralux Acoustical Plaster, Coralux Perlite Aggregates, Micra Pellet Vermiculite, High Temperature Insulating Blocks and Insulating Cement.

SEE OUR CATALOG IN SWEET'S INDUSTRIAL CONSTRUCTION FILE OR WRITE FOR COPY

Washington Topics

continued from page 52

This meeting is being sponsored by the Construction and Civic Development Department of the Chamber and will feature speakers and panelists widely known for their acute analysis and understanding of city growth and its attendant difficulties.

What makes the conference different is its direction toward pounding home to business and professional leaders their own responsibilities for participating in urban growth programs as they pertain to the orderly development of industry, commerce, transportation, housing, etc. There will be discussion of the community facilities and other aspects of growth bothering many American cities today.

Construction and Civic Development Department spokesmen said the second day would be devoted to a study of community development in general with panelists tackling the specific topics of industrial development, housing, and business leadership.

Speakers at the two-day conference on metropolitan growth will include John N. Richards, Toledo, president of the American Institute of Architects; A. D. Theobald, Chicago, president of the First Federal Savings and Loan Association; H. Walter Graves, president of the National Association of Real Estate Boards; Fred Rowe, Columbus, president of the Chamber's Construction and Civic Development Department; Dr. Philip M. Hauser, director of population research and training center, University of Chicago; Max Wehrly, Washington, D. C., executive director of the Urban Land Institute; Pyke Johnson, past president of the Automotive Safety Foundation; Paul Opperman, North Eastern Illinois Metropolitan Planning Commission, Chicago; John T. Hazeltine, Community Facilities Administrator, Housing and Home Finance Agency; and John S. Linden, vice president of the Chase Manhattan Bank, New York City.

Action on Housing Early in 1959 Called Urgent Need by Cole

Housing Administrator Albert M. Cole has indicated in his speeches this fall that the Administration will be asking for additional housing legislation early in the first session of the 86th Congress.

Mr. Cole has said he believes the first order of business when the lawmakers return to Washington January 7, 1959, should be action "to remedy the lack of housing legislation." The 85th passed one housing measure, the emergency bill, but failed to enact the general proposals for the first time in a decade. This left the HHFA without much of the authority it had sought for various programs including the big urban renewal plan.

Commenting on these developments, Mr. Cole said, "We didn't feel that the renewal of deteriorated commercial and industrial areas should be provided at the expense of Title I assistance to housing. So we recommended a refunding loan device supported by a revolving fund of $150 million."

Under this plan, he explained, the Federal government would have issued a commitment to the locality, a commitment it would use to borrow money from private sources.

But this suggestion was "given the cold shoulder" by Congress, as Mr. Cole put it, as were several other proposals in the omnibus measure including the six-year plan of Federal assistance for urban renewal which entailed $1.3 billion.

The housing administrator recalled his forceful statement made to realtors three years ago on the

With every institution laundry job you face these key questions.

1 **How big should it be?**

2 **What type equipment is needed?**

3 **How should equipment be arranged?**

4 **What will it cost to operate?**

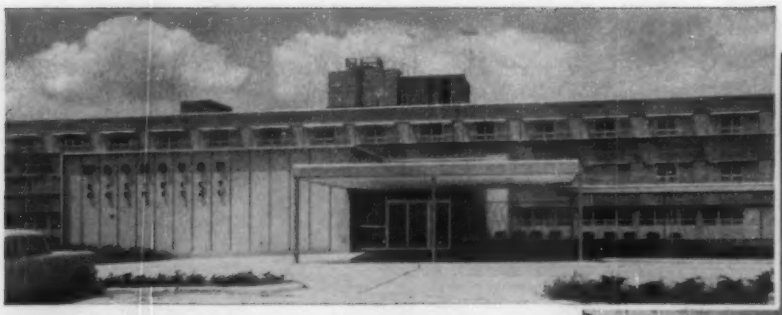
5 **What supply services are needed?**

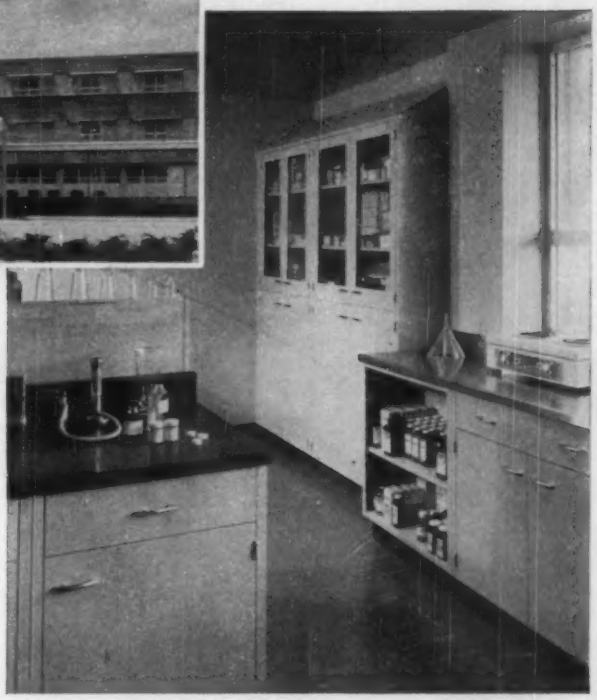
You can get helpful answers to these and any other questions, *including the vital question of laundry location in relation to other departments,* from The American Laundry Machinery Company's laundry planning service. This service is available to architects without obligation. Call your nearby American Man from the Factory, or write for complete information.

Wesley Gardens Retirement Home,
Des Moines, Washington.
Architect: Bain and Overturf,
Seattle, Washington.
Laundry equipment: The American
Laundry Machinery Company.

The American Laundry Machinery Company, Cincinnati 12, Ohio

You get more from American





Pharmacy

Hospital Casework

by *St. Charles*

At McDonough District Hospital,
Macomb, Illinois

Architect: Lankton-Ziegele-Terry and Associates

Section Examination

Patient Wardrobe

General Laboratory

No two hospitals are alike, in that each has its own special requirements for equipment. Accordingly, when it became necessary to decide on equipment for the new McDonough District Hospital, the choice was St. Charles.

Throughout the hospital field, St. Charles is becoming known for its dependability and attention to details.

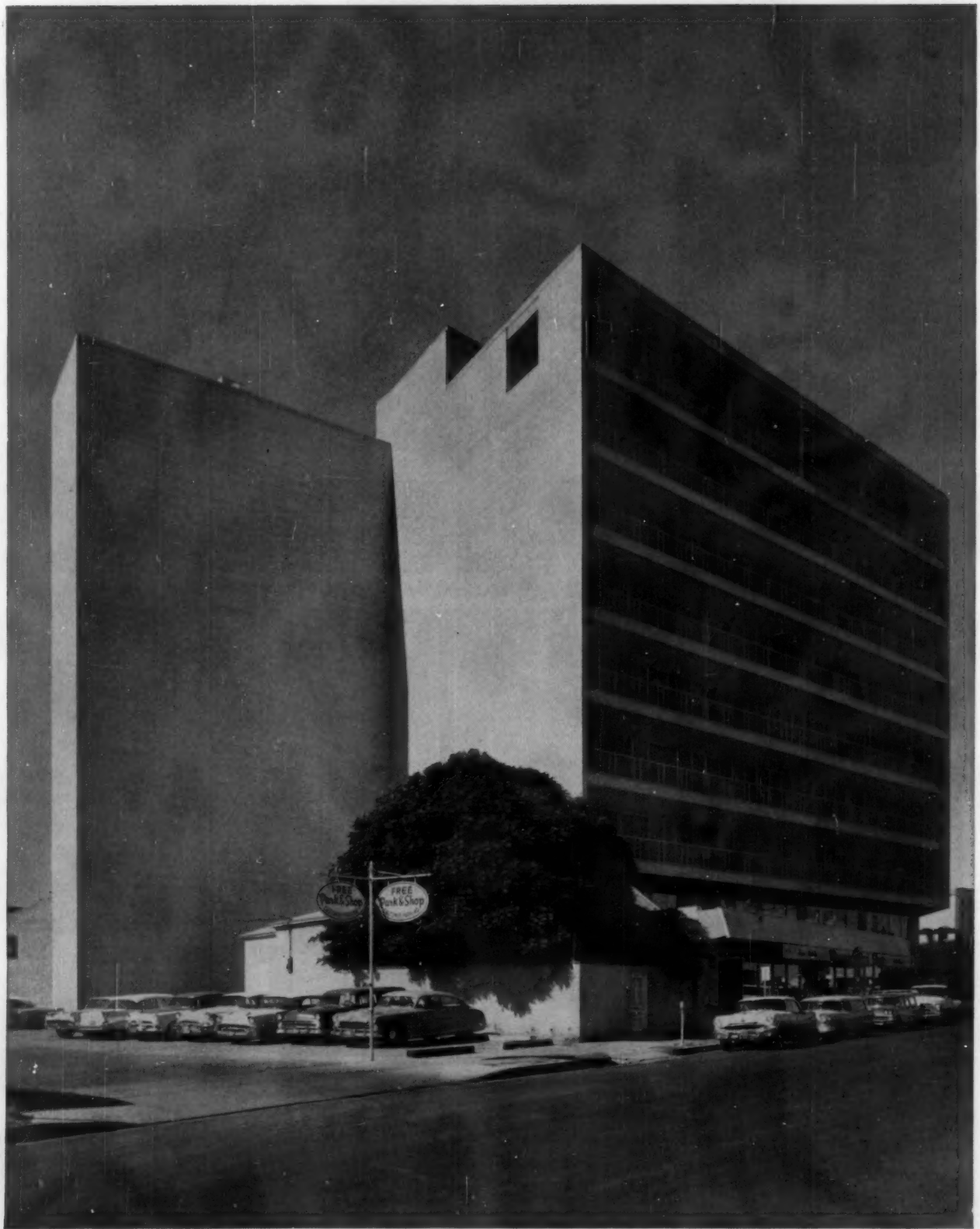
St. Charles' experienced men and modern facilities for manufacture are available to you . . . with competent help on casework applications and planning. Your request will bring a prompt response.

This complete catalog, "St. Charles Hospital Casework," is available at request on your letterhead.

StC

casework • sinks and counters • special purpose units

ST. CHARLES MANUFACTURING COMPANY, DEPT. ARH-11 ST. CHARLES, ILLINOIS



North and east walls of the 9-story Arizona Land Title Building are insulated with Styrofoam. Glass paneling with overhanging balconies to protect against bright sun comprise the south wall. Building contractor: The James Stewart Company, Phoenix, Arizona. Owner: Lawrence D. Mayer, Tucson.

Tucson architect uses Styrofoam® to cut wall costs 30%

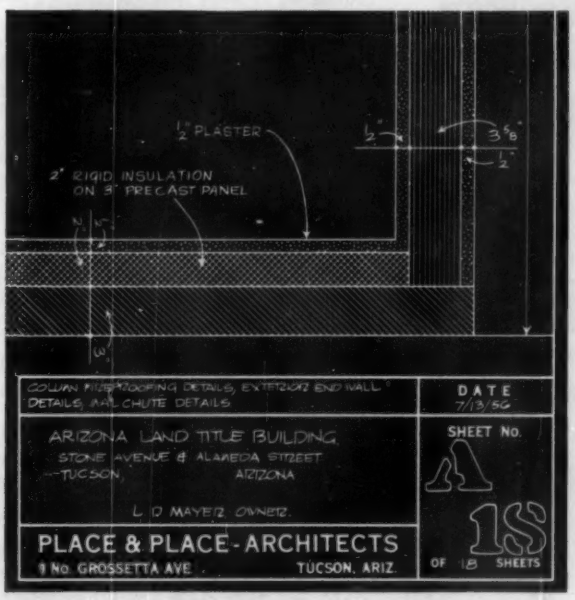
"Summer temperatures here in Tucson average between 90 and 105 degrees," says Lew Place of Place and Place Architects. "That's why insulation plays such an important role in the Arizona Land Title Building. By using Styrofoam*, we found that central air conditioning units of 300-ton rating have ample capacity to keep the interior comfortable. Without such effective insulation, an air conditioning system of much greater capacity would be required.

"We used Styrofoam as a plaster base and eliminated the need for supporting metal lath and furring. As a result, labor and material costs were 30% less than if we had used conventional methods.

"Cutting Styrofoam to fit in small spaces or around structural steel framing was a simple matter, too, as it can be easily cut with an ordinary pocketknife. Interior finishing was greatly simplified because the surface of Styrofoam forms an excellent base for plaster."

For more information about Styrofoam and a folder of construction details, write for A.I.A. file no. 37-B. THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Department 1925G.

*Dow's registered trademark for its expanded polystyrene


1/2" PLASTER
2" RIGID INSULATION ON 3" PRECAST PANEL
DATE 7/13/56
SHEET No.
ARIZONA LAND TITLE BUILDING
STONE AVENUE & ALAMEDA STREET TUCSON, ARIZONA
L. D. MAYER, OWNER
PLACE & PLACE-ARCHITECTS
1 No. GROSSETTA AVE. TUCSON, ARIZ.
OF 18 SHEETS

2" Styrofoam bonded to a 3" concrete panel and overlaid with ½" of plaster was specified in this construction detail from the Arizona Land Title Building plans.

Easy installation with Portland cement mortar makes Styrofoam ideal for wall insulation. It has permanent insulating efficiency, is lightweight, clean and rigid.

YOU CAN DEPEND ON DOW

subject of urban deterioration and said it held just as true today: "If we lag and postpone, if we wait four or five years, if we have not by 1960 at the outside begun to take across-the-board action, it may be too late. The people of any city without a comprehensive plan of action underway within the next five years at the latest will face municipal bankruptcy in 1965."

Start Now on Shelter Program, House Subcommittee Advises

After hearing thousands of words of testimony earlier this year, the military operations subcommittee of the House, headed by Rep. Chet Holifield (D-Cal.), reaffirms its conviction that an immediate start should be made on an extensive shelter construction program.

The subgroup heard Dr. Nathan Newmark, University of Illinois, state that present knowledge is adequate to permit the construction of highly protective structures now, but that lack of knowledge concerning behavior of structures in the range approaching collapse restricts ability to design highly resistant structures most economically. The tendency, he told the subcommittee, is to design structures with considerable margins of safety simply because the exact design criteria required are unknown.

But despite this view, the committee's 34th report, on shelter programs, spelled out the subgroup's conviction that Dr. Newmark's information in no way suggests that a shelter construction program should be delayed until further data are developed. Instead, said subcommittee members, it is desirable to undertake at least a minimum-type shelter construction program while continuing to seek ways of designing more economical structures for high over-pressure resistance.

The testimony this year apparently had convinced the subcommittee, too, that below-ground shelters would be necessary for proper blast protection. Its report noted that while it is possible to build above-ground structures resisting relatively high blast pressures "the Nevada tests have demonstrated that such structures would be very expensive, and consequently justified only in limited situations."

These disadvantages of above-ground shelters were enumerated:

"The most important is that while most structures are designed to carry vertical loads, few, except earthquake-resistant structures, are designed to take any significant lateral loads.

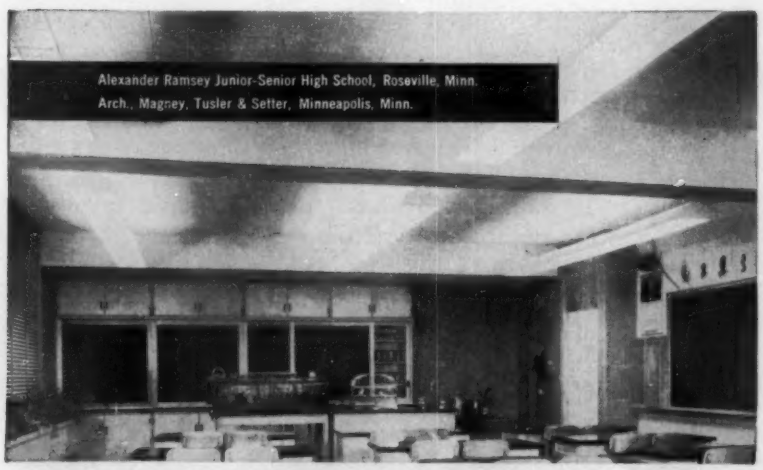
"In addition, blast pressures are even greater on structures built with vertical walls above ground than on those built flush with the ground, because of the reflected over-pressure and the drag pressure which loads the above-ground structure.

"Above-ground structures, then, are economically practical only for relatively low pressure levels. Although such structures can be made to resist high pressure levels as in the reinforced-concrete protective vault in Operation Plumbbob . . . the costs of such structures are high enough to discourage their use except for very special structures."

One of the specific conclusions from Operation Plumbbob was that a shelter should be completely below ground.

On the question of cost, the report indicated that an underground type developed by the Navy to accommodate 100 persons with bunks, clothing, emergency rations and other necessary equipment and supplies would come to about $100 a person.

The subcommittee concluded that there is in the country today a vast and dangerous gap between civil defense as it is and civil defense as it should be.



NATURAL SLATE CHALKBOARDS

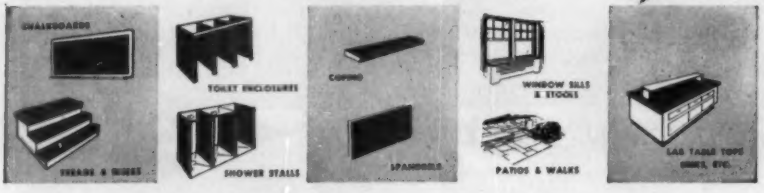
. . . because young eyes deserve the best!

The Alexander Ramsey Junior-Senior High School was a special awards winner in the 1954 "School Executive" competition. Thus, it comes as no surprise that the specifications for this forward-looking school included natural domestic slate chalkboards. For of all chalkboards, slate communicates best. Only white chalk on slate produces the desired high contrast necessary to permit young eyes to see and grasp the written message instantly. Only slate is so easy to clean . . . so durable . . . so low in annual maintenance cost . . . and so harmonious with traditional or contemporary decor. That's why leading schools, like Alexander Ramsey, continue to specify natural slate . . . quarried in Pennsylvania.

for information on specific properties of slate, write:

NATURAL SLATE BLACKBOARD CO.
THE STRUCTURAL SLATE CO. Pen Argyl, Pa.
Members—Pennsylvania Slate Producers Guild

natural slate . . . 500 million years in the making



FRANCHISEES

in the United States and Canada

COLORADO
persolite products, inc., 1245 osage street, denver 3, colorado—telephone: acoma 2-6111

FLORIDA
airlite processing corporation of florida, building no. 9, air base, vero beach, florida—telephone: 3518

GEORGIA
southern insulation company p. o. box 2082, atlanta 1, georgia

ILLINOIS
ryolex corporation, 310 east bradley street, champaign, illinois—telephone: 6-4234

silbrico corporation, 5901 west 66th street, chicago 38, illinois—telephone: reliance 5-3322

INDIANA
airlite processing corporation, scottsburg, indiana (office), vienna, indiana (plant)—telephone: plaza 1-5538 and plaza 1-8821

MASSACHUSETTS
the whittemore company, 35 harrison street, roslindale 31 (boston), massachusetts—telephone: fairview 3-6020

MICHIGAN
gregg products company, 646 chestnut street, s. w., grand rapids, michigan—telephone: glendale 4-5322

MINNESOTA
minnesota perlite corporation, 315 west 86th street, minneapolis 20, minnesota—telephone: south 1-8924

MISSOURI
j. j. brouk and company, 1367 south kingshighway blvd., st. louis 10, missouri—telephone: jefferson 3-9022

NEW JERSEY
certified industrial products, inc., 1344 liberty avenue, hillside, new jersey—telephone: murdock 8-1921

NEW YORK
certified industrial products, inc., 1344 liberty avenue, hillside, new jersey—telephone: murdock 8-1921

buffalo perlite corporation, 100 sugg road (cheektowaga), buffalo 25, new york—telephone: plaza 4326

NORTH CAROLINA
carolina perlite company, p. o. box 158 salisbury, north carolina—telephone: 3986

OHIO
indoken perlite company, 5300 vine street, cincinnati 17, ohio—telephone: avon 9946

PENNSYLVANIA
pennsylvania perlite corporation, p. o. box 694, allentown, pennsylvania—telephone: congress 4-2891

perlite manufacturing company, p. o. box 478—arch street extension, carnegie, pennsylvania—telephone: walnut 1-9200 (pittsburgh)

TEXAS
perlite of houston, inc., 3010 dixie drive (office), 502 fauna avenue (plant), houston, texas—telephone: jackson 8-2243

texas lightweight products company, 117 north britain road, irving, texas—telephone: 2-8181 (irving), randolph 5354 (dallas)

VIRGINIA
virginia perlite corporation, p. o. box 687, hopewell, virginia—telephone: cedar 9-4172 and cedar 9-2676

WISCONSIN
badger lightweight products corporation, 3101 west mill road, milwaukee 9, wisconsin telephone: flagstone 1-9050

CANADA
western perlite company, ltd., 101 mobil oil building, calgary, alberta, canada telephone: 2-7722

perlite products, ltd., 500 raleigh street, winnipeg, manitoba, canada—telephone: 50-2521

perlite industries, reg'd., 500 canal bank, ville st. pierre, quebec, canada—telephone: walnut 7098

No other roof deck material gives you so much insulation... with so much strength... at so little weight!
Permalite Insulating Concrete

The figures tell the story

INSULATION 1:6 mix portland cement and Permalite expanded perlite aggregate has a "k" of 0.58 . . . "U" value of .219 for a 2" thickness with built-up roof.

STRENGTH 1:6 mix has compressive strength of 180 psi — nearly 13 tons/sq. ft. For greater strength, a 1:4 mix provides 440 psi — more than 31 tons/sq. ft.

WEIGHT 1:6 mix has dry density of 27 lb./cu. ft. A 2" thick slab weighs only 4½ lb./ sq. ft.

Fire safe. Handled and placed like any ordinary concrete. Easily sloped to drain. Can't rot . . . vermin proof . . . termite-proof. For the complete story, see your Sweets File, or write

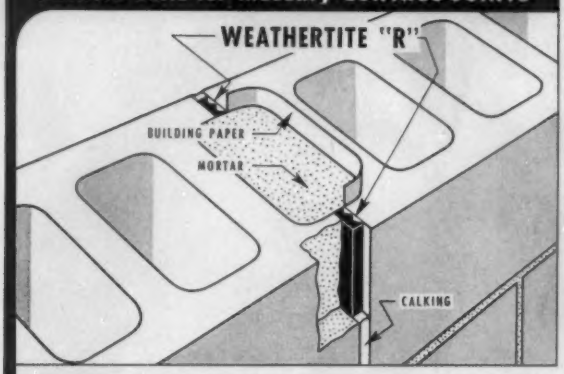
Permalite THE LARGEST SELLING PERLITE AGGREGATE IN THE WORLD

Perlite Department, Great Lakes Carbon Corp., 612 S. Flower St., Los Angeles 17, Calif.

Permalite aggregate is produced by licensed franchisees from perlite ore mined by Great Lakes Carbon Corporation.

WEATHERTITE

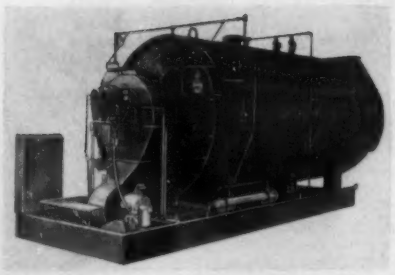
Positive SEAL for Masonry CONTROL JOINTS



To guard against cracks in block-constructed masonry walls, caused by shrinkage, always use an approved Control Joint . . . to prevent water seepage through these very necessary control joints, always use WEATHERTITE for a permanent SEAL. This time-tested product is a continuous strip of expanded Polyvinyl Chloride . . . it is formed with serrations on one side to permit adequate compression when installed, and to provide the positive expansion which so effectively and permanently seals control joints in block constructed masonry walls. WEATHERTITE is available in three sizes which are designed to effectively seal any type of masonry control joint.

See Sweet's Architectural File, Section 9, or write for information.

WILLIAMS EQUIPMENT and SUPPLY COMPANY
456 E. Eight Mile Rd., Hazel Park, Michigan



"PACKAGED" STEAM BOILERS

Completely equipped and tested at factory. Fully Automatic for Gas or Heavy Oils or Combination Oil and Gas.

75 to 750 Horsepower. High or Low Pressure.

A.S.M.E. Code, National Board, Underwriter's Laboratory and Factory Mutual approved.

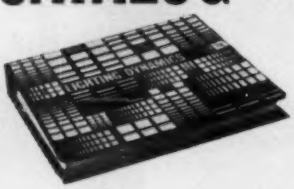
Efficiency and Capacity guaranteed.

MODERN BOILERS
FOR
MODERN SCHOOLS

Ask for Bulletin 509-B

JOHNSTON BROTHERS, INC.
FERRYSBURG, MICHIGAN
ESTABLISHED 1864

NEW LIGHTING DYNAMICS CATALOG



new fixtures, new ideas in lighting's most advanced catalog

Yes, there are "idea renderings" for architects, a cost range indicator, and templates. For engineers: a lighting calculator, and accurate photometrics—the first catalog completely done with the I.E.S. interflectance method. There's easy-to-use mounting information for contractors, and a simplified ordering system for wholesalers.

It's crammed with new fixtures; and has a much-needed basic organization that makes it easy-to-read, easy-to-use.

Reserve your copy today by filling out the coupon below.

LIGHTING DYNAMICS
802 W. Whittier Blvd.
Whittier 1, California

NAME.....
TITLE.....
ADDRESS.....
FIRM.....
AR8-10

"PUSH BUTTON" *electric* STAIRWAY

• LISTED IN SWEET'S

SOLVES PROBLEMS
IN COMMERCIAL BUILDINGS
and fine homes
INCREASES VALUABLE FLOOR SPACE
in banks, churches, parts houses, shoe stores, bottling plants, fine homes . . . or any place where floor space is at a premium.

PRECISION PARTS CORPORATION
400-AR North First Street Nashville 7, Tennessee

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT AND CIRCULATION OF

ARCHITECTURAL RECORD, combined with American Architect & Architecture, published monthly at Concord, New Hampshire, for October 1, 1958.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher: F. W. Dodge Corporation, 119 West 40th Street, New York 18, N. Y.; Publishing Director: H. Judd Payne, 119 West 40th Street, New York 18, N. Y.; General Manager: Robert F. Marshall, 119 West 40th Street, New York 18, N. Y.; Editor: Emerson Goble, 119 West 40th Street, New York 18, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) F. W. Dodge Corporation, 119 West 40th Street, New York 18, N. Y.

All of the common stock is held by the following Voting Trustees namely: James McV. Breed, 15 Broad Street, New York 5, N. Y.; Paul Abbott, 40 Wall Street, New York 5, N. Y.; Howard Barringer and T. Oliver Morgan, both of 119 West 40th Street, New York 18, N. Y.; and George W. Morgan, 76 Beaver Street, New York 5, N. Y., under Voting Trust Agreement dated as of June 12, 1928 as amended and extended to May 2, 1966 by Extension Agreement dated as of February 19, 1957.

No owner or holder of preferred stock owns or holds 1 percent or more of the total amount of stock of F. W. Dodge Corporation; and the beneficial owners of common stock deposited under the aforesaid Voting Trust, whose combined ownerships or holdings of common stock so deposited and of preferred stock equal 1 percent or more of the total amount of stock are: Paul Abbott; May Gibson Baker; Howard J. Barringer; James McV. Breed; Rosilla Hornblower Breed and William C. Breed, Jr., as Trustees under Paragraph Fifth of the Will of Alan R. Breed for the benefit of Rosilla Hornblower Breed; Rosilla Hornblower Breed and William C. Breed, Jr., as Trustees under Paragraph Fourth of the Will of Alan R. Breed for the benefit of Rosilla Hornblower Breed; William C. Breed, Jr. (Individually); Mary F. Broadwell; Eddy & Co., Nominee for Bankers Trust Company, Trustee under Will of Michael A. Mikkelsen for the benefit of Gwendolyn Mikkelsen; Sumner Ford; I. W. Hadsell; Thomas S. Holden; (Mrs.) Laura M. Jackson; (Mrs.) Laura McIntosh Kleege; Julius T. Little; Donald S. McIntosh; Robert F. Marshall; George W. Morgan; Gerald D. Morgan; T. Oliver Morgan, Trustee under Will of Laura O. Morgan for the benefit of Laura M. Jackson; T. Oliver Morgan, Trustee, under Will of Laura O. Morgan for the benefit of Helen M. Young; T. Oliver Morgan (Individually); T. Oliver Morgan, Trustee under Will of Trumas S. Morgan for the benefit of Laura M. Jackson; T. Oliver Morgan, Trustee under Will of Truman S. Morgan for the benefit of Helen M. Young; Minnie C. Ort; George H. Partridge; Mrs. Jane A. Pratt; William J. Quinn; Howard M. Thompson; John J. Traynor, Successor Trustee under Agreement dated June 1, 1932 for the benefit of Eugenia S. Breed; Marcus Wayne; Chauncey L. Williams.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (if there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

ROBERT F. MARSHALL,
General Manager.

Sworn to and subscribed before me this 24th day of September, 1958. [SEAL] IDA A. PETERSON, Notary Public for the State of New York. Qualified in Westchester County, No. 60-3075100. Cert. filed with Co. Clerk, New York. Commission expires March 30, 1959.

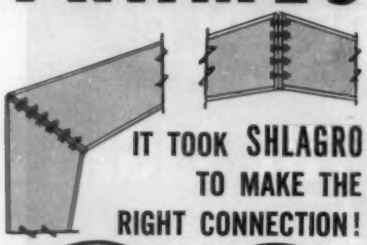
...and architects and builders who specify TOUCH-PLATE low voltage switching systems enjoy new benefits of

- Leadership in design
- Unmatched flexibility in lighting control
- Upgrading their projects at low cost
- Providing greater owner convenience and satisfaction in the use of electricity

NEW Catalog and Instruction Book Available. Write to Dept. 11.

TOUCH-PLATE MFG. CORP.
P.O. BOX 1970 • LONG BEACH, CALIFORNIA

at last! LOW COST RIGID FRAMES



IT TOOK SHLAGRO TO MAKE THE RIGHT CONNECTION!

— 4 straight members! Easy to handle and assemble. No field welding.

— V-shaped ridge and L-shaped columns. Too bulky, costly to ship.

Exclusive! The new Shlagro connection eliminates bulky, expensive shipping and awkward-to-handle shapes. **4 straight members!** No field welding — no skilled help necessary. Field assembly completed in no time, using only bolt and wrench. Now — Shlagro makes rigid frame construction faster, simpler, less costly. Write today for Catalog #500.

another FIRST by the PIONEERS of SQUARE columns!

SHLAGRO

STEEL PRODUCTS CORPORATION
SOMERVILLE, MASS.

I am interested in Shlagro Stock Steel RIGID FRAMES, and other Shlagro products checked below:

- ☐ #500 — STOCK STEEL RIGID FRAMES
- ☐ #100 — STOCK STEEL ROOF TRUSSES
- ☐ #150 — STOCK STEEL LONGSPAN JOISTS
- ☐ #200 — SQUARE STEEL COLUMNS
- ☐ #225 — KARRI-MORE SQUARE COLUMNS
- ☐ #250 — SHLAGRO SHEAR HEADS
- ☐ #300 — STOCK STEEL TURNTABLES
- ☐ #350 — SCAFFOLDING
- ☐ #375 — SHLAGRO NO-DIAGONAL LONGSPAN JOISTS
- ☐ #400 — EGG-SHELL STEEL PLATE ROOFS
- ☐ #550 — STOCK STEEL VERTICAL MEMBER TRUSSES
- ☐ #600 — STEEL VERTICAL LIFT DOORS
- ☐ #650 — NO SHELL PRE-CAST FIREPROOF REINFORCED CONCRETE COLUMNS
- ☐ #700 — STEEL FLOORSPAN GIRDERS
- ☐ #750 — STEEL WELDED PIPE TRUSSES
- ☐ #800 — STOCK STEEL MOMENT CONTOUR BEAM AND GIRDER
- ☐ #825 — PREFAB BUILDINGS – FLAT ROOF
- ☐ #850 — PREFAB BUILDINGS – PITCH ROOF
- ☐ #900 — SHLAGROMATIC SPACING DRILL

name_____

title_____

_____

AR-11

Please attach to your professional letterhead and mail to:
SHLAGRO STEEL PRODUCTS CORP.
SOMERVILLE, MASS.

Washington Topics

Lumber Industry Campaigns for Greater Use of Wood

The lumber industry prepared to throw new weapons into its fight to hold its traditional markets against the inroads of newer competitive materials.

The opening guns in this intensified struggle sound this fall with the launching of a $1-million program by the lumber manufacturers through their National Lumber Manufacturers Association.

As N. Floyd McGowin, N.L.M.A. president, puts it, the industry is faced with a challenge it no longer can ignore. This comes, he says, from the makers of competitive materials —steel, brick, plastics, aluminum "and other products that have toppled lumber from its once-dominant position in the market place."

The challenge will be met with a positive, coordinated plan of action, the lumber manufacturers have decided. All segments of the lumber industry have been invited to join the campaign.

The job, according to Mr. McGowin, will be the all-embracing one of preselling the customer on wood as opposed to competitive materials "so that our regional associations and individual companies can move in and promote their particular brands and species."

Another phase of the campaign involves the expansion of N.L.M.A.'s work in the field of building codes and fire insurance rates. This looks toward the elimination of so-called "discrimination" against wood and wood products.

A technical promotion field staff is working with architects, engineers, contractors, school officials and others who influence the use of wood.

Mechanization Called Spur to Work for Building Trades

Lathers and plasterers have been told by a prominent government spokesman that mechanization in their trade has actually increased the volume of work. The official was W. F. Patterson, special assistant to the Secretary of Labor.

Acoustical application techniques have increased considerably the demand for lathers, he said. And the stapling machine he described as an example of a new tool resulting in the improvement of the quality and quantity of service provided consumers.

"Every innovation or change means an impelling requirement for

KILLARK electrolets

the all-aluminum electrical fittings

- Entrance fittings
- Flush switch fittings
- Conduit bodies
- Vapor-proof fittings and fixtures
- Explosion-proof fittings and fixtures
- Dust-tight fittings and fixtures
- Explosion-proof plugs and receptacles
- Outdoor lighting fixtures

Killark
ELECTRIC MANUFACTURING CO.

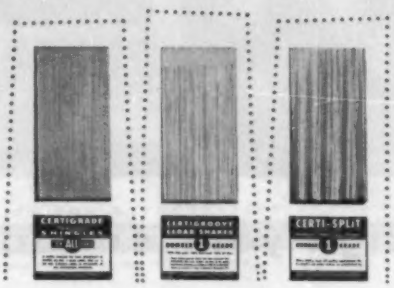
The qualities of cedar shingle roofing transcend passing fancy. Custom home designs—*of any period*—are characterized by expansive roof areas, distinctive roof textures, important roof pitches. The versatility and integrity of natural materials—notably cedar shingles for exteriors—afford the designer limitless scope, infinite expression.

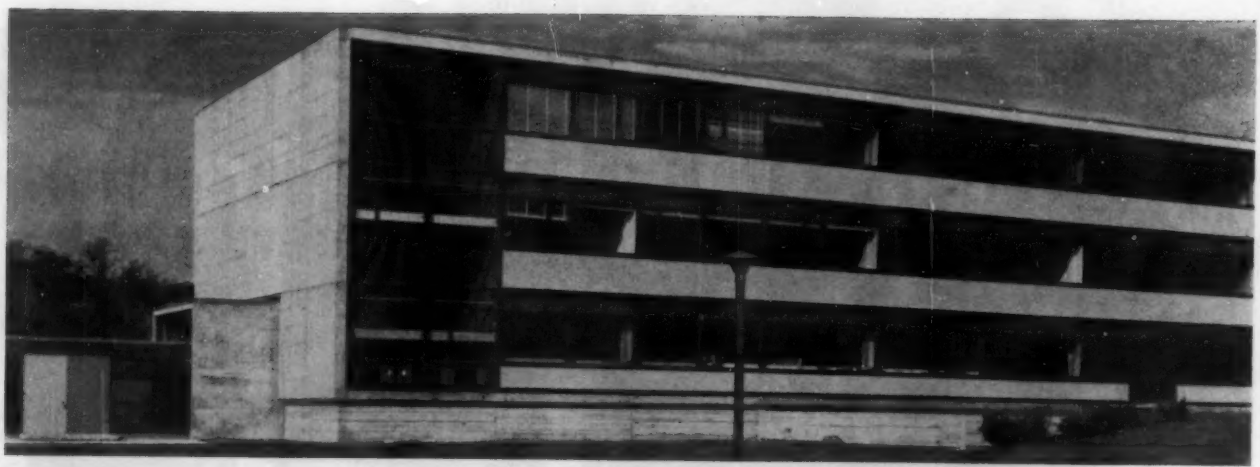
Shingles of Western Red Cedar have that vital *third dimension* . . . the thick butt-lines that catch the sun and create shadow accents of dramatic depth. Only cedar shingles offer the natural graining and rich texture of the genuine. Because only cedar *is* the genuine.

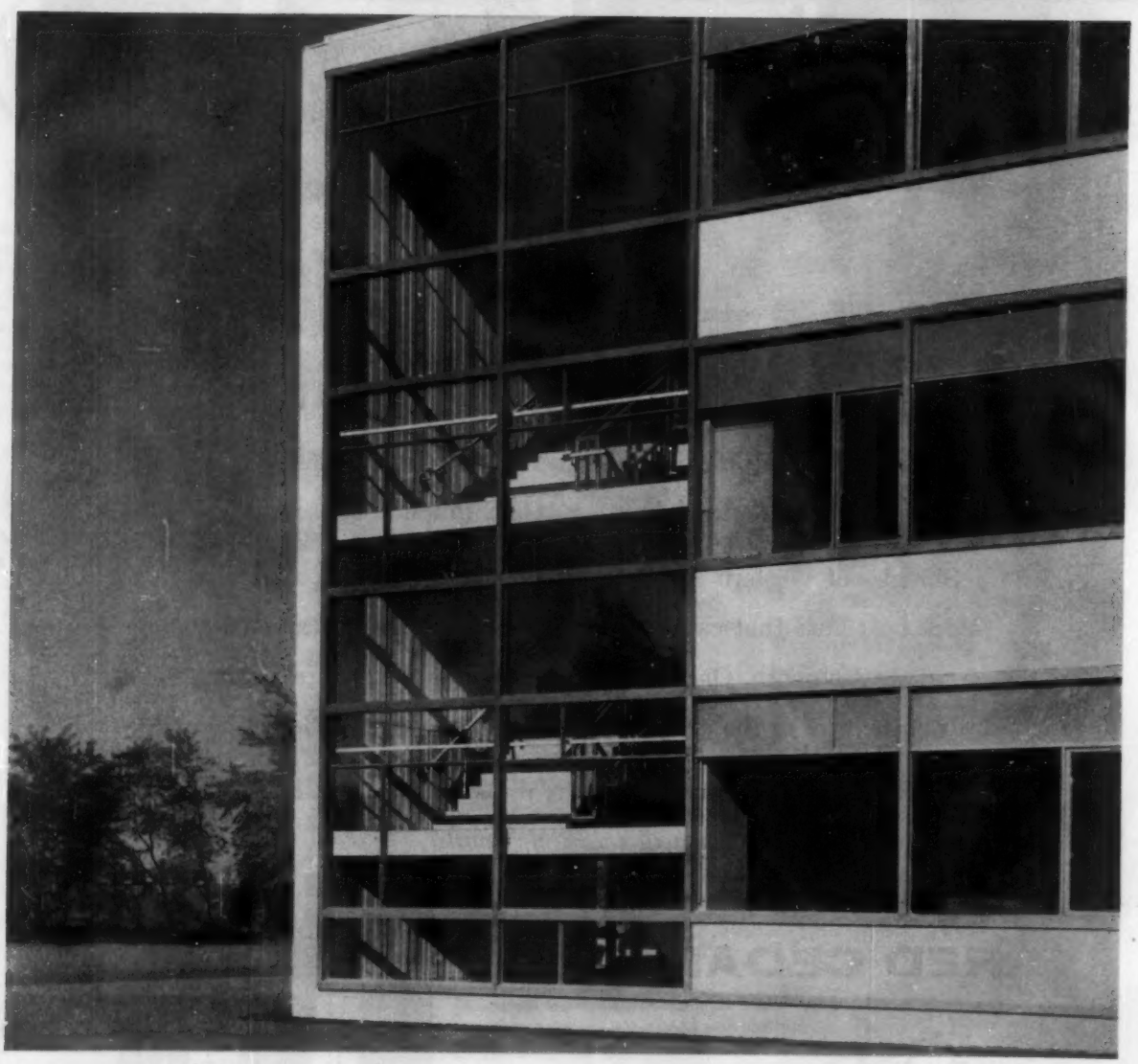
When you think of roof design . . . think *big* . . . think *bold* . . . *and you will think of cedar!*

RED CEDAR SHINGLE BUREAU

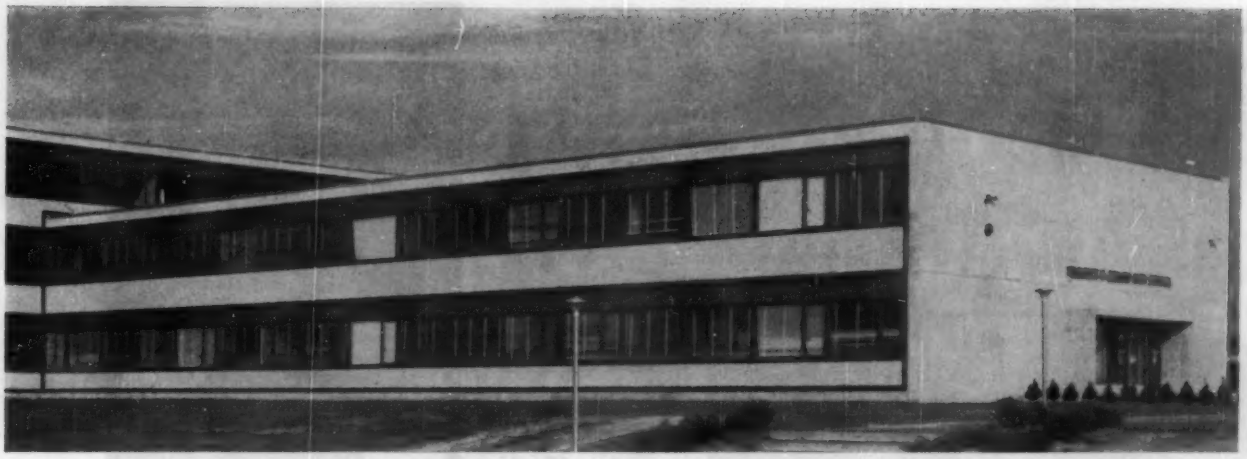
5510 White Building, Seattle 1, Washington
550 Burrard Street, Vancouver 1, B.C.







Design your schools better with PITTSBURGH



35,000 square feet of functional glass

Here's a real attention-getter—the new Frederick U. Conard High School in West Hartford, Connecticut. 25,000 square feet of PENNVERNON Sheet Glass and 10,000 square feet of colorful SPANDRELITE Glass form the handsome window walls . . . beautifully simple in design *and completely functional.*

Conard High School is rich with natural daylight that streams through the large PENNVERNON Windowpanes. Students and teachers benefit from the extra light and unrestricted vision made possible by PENNVERNON's clear transparency.

Visitors at the school are impressed by the bright SPANDRELITE panels that complete the window wall. This beautiful, non-fading glass will resist weather and corrosion for the life of the building. There are no maintenance problems with SPANDRELITE.

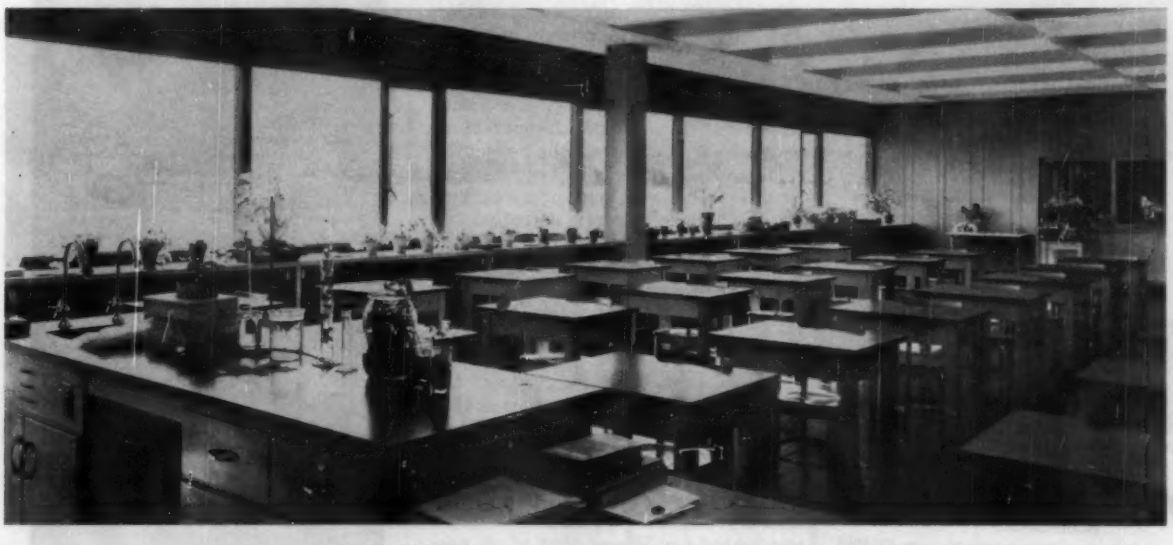
Every new school can reap these handsome benefits of Pittsburgh Glass—beauty of design, improved lighting, and a pleasing indoor-outdoor atmosphere.

Architect: Nichols & Butterfield, West Hartford, Connecticut

CONSULT YOUR ARCHITECT

for information about the use of these famous Pittsburgh Glasses in school construction:

Solex®	green tint, heat-absorbing and glare-reducing plate glass
Solargray®	neutral tint, heat-absorbing and glare-reducing plate glass
Herculite®	shock-resisting tempered plate glass
Twindow®	the world's finest insulating window
Polished Plate Glass	for clear, undistorted vision
Pennvernon®	window glass at its best
Spandrelite®	glass in color
Pittco®	glass-holding and decorative metal members



GLASS

75th ANNIVERSARY 1883—1958

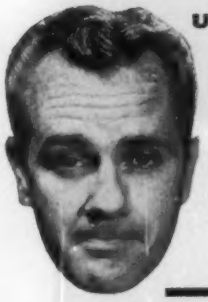
SYMBOL OF SERVICE FOR SEVENTY-FIVE YEARS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Problem Solving at Huntington

HE:
What? Wax a Conductive Floor?



US:
We'll try to develop a conductive floor wax!

HE:
If you can, a fortune in pearls is yours!

US:
We did it!

Huntington C-2C Conductive Wax! Designed specifically for conductive floors. Listed by Underwriters' as safe. It's the only wax for conductive floors that is!

We don't want a fortune in pearls for every problem we solve. But we would like a chance to help you solve your maintenance and sanitation problems. Write for the name of the Man Behind the Drum nearest you. He's your Huntington representative. His advice won't cost a cent. And he could save you money.

HUNTINGTON LABORATORIES
INCORPORATED
Huntington, Indiana • Philadelphia 35 • Toronto 2

HUNTINGTON

Washington Topics

training designed to equip workers to meet new skill needs," Mr. Patterson commented. Of training in general, he said that every conceivable public relations medium should be used to convince architects and prospective home buyers that the industry training program can furnish the manpower necessary for the application of lath and plaster.

Mr. Patterson warned that the pace of the apprentice recruitment program must be stepped up by the lathing and plastering industry or it will face a serious shortage of workers in future years. His remarks were given before a recent Long Beach, Cal., convention of the Wood, Wire and Metal Lathers International Union.

Increase in Speculative Housing Shown in New BLS Survey

The Bureau of Labor Statistics ran a survey on housing in the calendar years 1955 and 1956 and found that approximately two thirds of all privately owned single-family houses started in nonfarm areas were constructed by speculative builders. The builder group included large tract operators and small-scale speculative builders as well, defined by BLS as contractors who plan and execute construction of houses or apartments on their own land to their own specifications for sale or rent.

As for the remaining one third of new houses started in those two years, the agency found that responsibility for acquiring a building site and arranging for construction was assumed by a person who intended the house for his own use. Construction of such houses was divided about equally between builders operating as general contractors and owner builders who executed construction plans without the services of a general contractor by employing subcontractors directly.

BLS found that when the general contractor and speculative or operative builder were combined, they accounted for around four fifths of all new nonfarm housing started in the two-year period.

Placed with earlier figures of the same type, these results showed that since 1950 "the initiative in determining the amount and kind of housing to be built and its location shifted increasingly from the user to the producer." Operative builders accounted for 70 per cent of all new single-family nonfarm homes started in the first quarter of 1955 compared with less than half of the 1949 total.

lighting design by mc Philben

45W wall mounted edge-lit

45R recessed ceiling mounted edge-lit

cast aluminum quality

mc Philben's 45 line edge-lit directionals are designed to blend with the finest contemporary decor in hotel lobbies, auditoriums, office buildings, schools and other public locations.

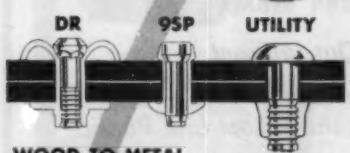
Gleaming satin finish . . . solid cast aluminum construction . . . wall, ceiling or surface mountings . . . incandescent and fluorescent models . . . invisibly hinged access doors . . . flush fasteners . . . acrylic Plexiglass inscription panels illuminating full length of letter . . . these are some of the features making mc Philben's 45 line edge-lit directionals the architect's first choice for use in the nation's finest buildings.

The 45 line series is available with either "exit" or special wording inscriptions. 4½", 6" or 8" lettering with red, green and white color combinations conform with all local regulations.

Contact your mc Philben representative today for full details. See our insert in Sweet's file or write for data sheet E/1.

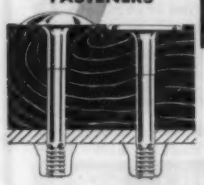
mc Philben
LIGHTING COMPANY
1329 Willoughby Avenue
Brooklyn 37, New York

BETTER



FASTER

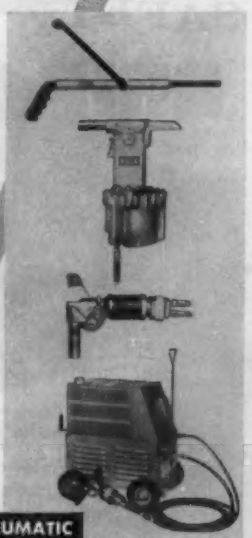
WOOD-TO-METAL FASTENERS



LOWER COST FASTENING !

Huck Blind Rivets and Huckbolt Fasteners are well known for their uniform, fast installation — their great strength in shear or tension and their low installed cost.

The Huck system takes the guesswork and human error out of fastening, even inexperienced operators can install Huck fasteners at a rate that makes other methods expensive and obsolete. Sturdy, light-weight tools do the work easily, uniformly and automatically.



There is a Huck fastener for every requirement — High shear, tension, self-sealing, broad-bearing, close-tolerance, pull-together, etc. Head styles, pin diameters and grip lengths to suit the specific job.

Write for catalog 8-416 showing our commercial line of fasteners and installation equipment.

HAND TOOLS ● PNEUMATIC TOOLS ● HYDRAULIC TOOLS ● MOBILE POWER UNITS

World's largest manufacturer of blind rivets and precision fasteners.

HUCK *MANUFACTURING COMPANY*

2480 Bellevue Ave., Detroit 7, Mich. WAlnut 1-6207

TEMPRITE

WATER COOLERS SERVE

PRUDENTIAL

41-story Prudential Building, Chicago, erected on 187 caissons resting on Niagara bedrock. Prudential offices served with Temprite Water Coolers.

Comparative analyses have led The Prudential Insurance Company of America and many other financial, commercial and industrial enterprises to select Temprite Drinking Water Coolers.

Reason? A clear-cut edge in quality . . . a clean-cut edge in styling.

Consult Sweet's Architectural file or clip coupon for details.

TEMPRITE
The Quality Line Since '29

TEMPRITE PRODUCTS CORPORATION
P.O. Box 72F, E. Maple Rd., Birmingham, Mich.

Send me literature on Temprite self-contained water-coolers.

Company_____

Name_____

Address_____

City_____ Zone_____ State_____

hydroment
JOINT FILLER
Provides

DENSE, TIGHT, NON-SHRINKING, ODORLESS, NON-TOXIC JOINTS. INHIBITS BACTERIA GROWTH—HIGHLY RESISTANT TO WEAR... PROTECTS THE VULNERABLE PORTIONS OF BRICK AND TILE WALLS AND FLOORS

Brick and Tile Floors and walls are no better than their joints.

The area of the joints in the average installation is less than 5% of the total.

Yet, how often is this important area overlooked in terms of longevity, durability and ability to resist corrosion.

When Hydroment Joint Filler is used, architects, tile setters and building owners alike are all satisfied. Available in seven lasting, eye pleasing shades.

Packed ready for use. Simply add water.

Write for the HYDROMENT JOINT FILLER DATA.

THE UPCO COMPANY
4805 LEXINGTON AVE., CLEVELAND 3, O.

see our catalog in S or write for copy

FAIR-PLAY SCOREBOARDS

Out in Front
Serving the Architect and Engineer As They Do the School and Public

Fair-Play, largest manufacturer of electric boards, offers the most complete line, with a model for every type of installation.

From the big four-sided suspension scoreboard (above) in the New Dallas Memorial Auditorium, to the smallest high school gym, Fair-Play is Out in Front.

Leadership backed by 28 years of superiority in quality, design, workmanship and service.

FAIR-PLAY MODEL FF-15 →
Basketball scoreboard for single or synchronized installations. The favorite of high schools.

NOW READY!
1958-59 Architects-Engineers Scoreboard File
including installation drawings and written specifications.

WRITE FOR YOUR COPY **FAIR-PLAY SCOREBOARDS**
DEPT. AR BOX 359, DES MOINES, IOWA

National Biscuit Company Research & Development Bldg. Fairlawn, N. J.
Architect: Owner
Contractor: W. Kidde Constructors

For Enduring Charm
... Specify
Architectural METAL WORK
by Fiske
Aluminum, Bronze, Stainless Steel and Iron

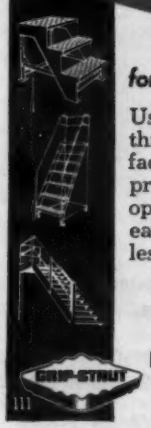
For 100 years, Architects have relied upon Fiske for the widest choice of artistic designs, materials, craftsmanship and dependability. Now, more than ever, Architectural Metal Work by Fiske... in Aluminum, Bronze, Stainless Steel and Iron ...represents the finest obtainable.

Write for our catalog of designs or send blueprints for quotations.

J. W. Fiske ARCHITECTURAL METALS, Inc.
113-115 Pennsylvania Avenue, Paterson 3, New Jersey
ESTABLISHED 1858

SAFETY GRIP-STRUT
PATENTED

Standard tread with standard nosing. Also with abrasive nosing.



STAIR TREADS
for greater safety • for greater economy

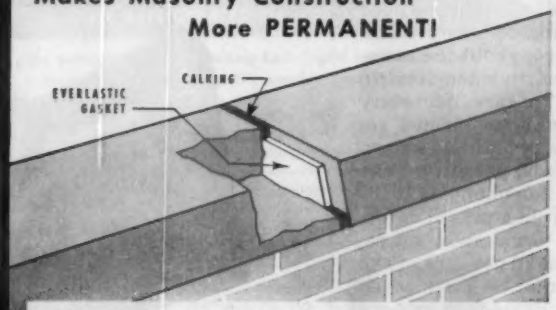
Use Safety GRIP-STRUT stair treads throughout your plant, on your manufactured products for greater anti-skid protection. All one piece of material with open area in excess of 55% total area, easy to flush clean, greater strength with less weight, in steel or aluminum.

Available at Globe Distributors in all principal cities. Consult yellow pages in your phone book under "stair treads."

PRODUCTS DIVISION
THE GLOBE COMPANY
4020 S. PRINCETON AVE. • CHICAGO 9, ILL.

✓EVERLASTIC
MASONRY GASKET

Makes Masonry Construction More PERMANENT!



Coping stones and sill stones should remain permanently fixed in their mortar beds. Everlastic Gaskets permit linear expansion in summer heat and prevent frost damage in winter. The EVERLASTIC MASONRY GASKET is a wholly non-absorbent elastomer. It is a readily compressible joint filler which is inert to heat, cold, oils, alkalies and atmospheric acids . . . and, it is impervious to water. It is furnished die-cut to specifications and coated with pressure sensitive adhesive for use between sill and coping stones, brick and stone wall panels, and other places where expansion, contraction and freezing action will destroy masonry construction. See Sweet's, or write for information.

WILLIAMS EQUIPMENT and SUPPLY COMPANY
456 E. Eight Mile Rd., Hazel Park, Michigan

BOECKH'S MANUAL OF APPRAISALS
5th Edition — just published

Over 100,000 individual unit costs—more than 300 buildings, with hundreds of variations, all easily converted to local cost conditions.

YOU CAN FIGURE YOUR BUILDING COSTS ..... quickly and accurately .....

BUILDING COSTS — published monthly

A supplementary service giving an analysis of current market conditions and latest cost indexes for the major metropolitan areas of the U. S. and Canada to convert to local cost conditions.

SEND TODAY FOR COMPLETE DETAILS

E. H. Boeckh & Associates
1406 M Street, N. W.
Washington 5, D. C.

Variations on a color theme
. . . with mood lighting.

Interior color atmosphere can be quickly changed to suit the occasion with Auralite — Century's newest contribution to creative lighting.

Auralite© is a dramatic new concept in lighting fixtures that permits easy change of mood color. More important, it preserves white-light realism at working levels . . . eliminating color distortion. Send for details.

©Copyright Pat. Pending

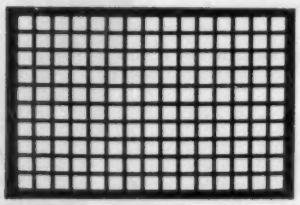
CENTURY LIGHTING, INC. 521 W. 43rd St., N. Y. 36
1477 N. E. 129th St., North Miami, Fla., 1810-40 Berkeley St., Santa Monica, Calif.

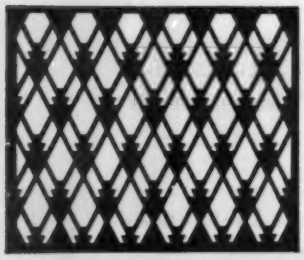
Classic or MODERN

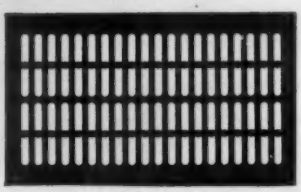
there is an

H&K GRILLE

for every application







For the next building you plan, specify architectural grilles from the many designs available at Harrington & King. Grilles can be furnished in practically any type and gauge of metal in the finish desired.

H & K grilles are perforated and finished in accordance with the architect's specifications and details. Perforated holes are clean and free from burrs. Margins are in alignment with the pattern. H & K grilles are leveled and inspected before shipment.

Wherever architectural grilles are required, specify "Grilles by H & K."

See our file in Sweet's—30f/Ha

Write for H & K Grille Catalog No. 33—Today!

FIND NEAREST H&K AGENT IN THE 'Yellow Pages'

Listed under "Grilles."

THE **Harrington & King** PERFORATING CO. INC.

Chicago Office and Warehouse
5624 Fillmore St.

New York Office and Warehouse
106 Liberty St., N. Y. 6

Washington Topics

New Effort Planned to Speed Up Waste Treatment Construction

Early indications of the Administration's proposed efforts to speed up the construction of waste treatment facilities throughout the country appeared recently when Health, Education, and Welfare Secretary Arthur S. Flemming confirmed reports that Congress would be importuned to authorize 30 per cent of the present Federal telephone tax for this purpose. He told a press conference that under such an arrangement an additional 10 per cent of the present tax would be distributed among the states. Passed out under a variable formula with relatively larger grants going to lower income states, this would mean that some $145 million in annual Federal grants would be available to cover both waste treatment construction and vocational education.

During the first two years of the Federal Water Pollution Control Act of 1956, communities received grants for more than 1000 projects which involved $95 million in Federal grants and $610 million in state and local funds.

But the Administration is anxious to substitute the tax deferment plan for the present Act which authorizes $3 million a year for five years in annual Federal grants to support state and interstate pollution control programs. Admittedly, under the new plan, states would be left to the guidance of their own consciences as to application of the funds. Secretary Flemming said he would expect the states to demonstrate good faith by using the Federally collected funds for cleaning up their streams.

HEW and its Public Health Service, which administers the present law, take the view that pollution control grants differ from other types of Federal allotments such as highway funds in that the pollution control problem is purely local.

Under the 1956 Act, states and interstate agencies have used program grants for hiring technical personnel, purchasing special laboratory and field study equipment, research and stronger enforcement of state laws. The research phase has been centered largely at the Robert A. Taft Sanitary Engineering Center at Cincinnati. Some 30 projects presently underway at the center aim principally at development of more effective and cheaper sewage treatment processes. Other research at Cincinnati involves methods of freeing water supplies from viruses

Just published!

THE MAMMOTH NEW REFERENCE WORK OF PLANT OPERATION AND MAINTENANCE

by the editors of *Plant Engineering*

HERE IS A BOOK which, although designed primarily for the plant engineer, can be very valuable to the architect or engineer doing industrial buildings. It contains 226 separate studies, divided into 13 sections. The sections are on these subjects:

Sites and layout
Construction
Housekeeping and safety
Materials handling
Maintenance
Paints and protective coatings
Mechanical power and piping systems
Electric power
Lighting
Utilities
Heating and air conditioning
Quality control
Shopwork

As you can see, at least 10 of the above sections contain material which has a direct bearing on design. The processes to take place within the buildings, and the activities of the men who will maintain and be responsible for them should be considered most carefully in the design stage. For that reason, it will be worth your while to examine this giant book.

Fill out the coupon below. You will receive your personal examination copy of PLANT ENGINEERING PRACTICE for 10 days free use. If you decide the material is not useful to you, just return the book without obligation. That, we feel, is the only fair way to evaluate a book of this scope.

704 pp, 8¾ x 11⅛, 800 illus, $18.50

DODGE BOOKS, F. W. Dodge Corp.

119 W. 40 St., New York 18, N. Y.

Send my copy of PLANT ENGINEERING PRACTICE for 10 days free use. At the end of that time, I will either remit $18.50 plus postage, or return the book without obligation.

Name .....

Address .....

City ..... State .....

9511

Meterflo®

SELF SERVICE **DISPENSERS**

FOR REFRIGERATED OR HOT LIQUIDS

. . . the nation's first and leading bulk liquid food dispensers for fully automatic fingertip portion control delivery.

Just "touch" the button for automatic delivery, portion controlled!

- 20 Gallon capacity
- In-line or off-line 24- hour service
- Simplified handling cuts labor cost
- Counter, under counter or floor models
- All models use standard 5 or 10-gallon dairy cans
- All use proven Meterflo "lift" principle
- Fast delivery cycle—1 to 24 ounces
- Conforms to sanitary and health dept. standards

Also available for coin operation . . . around the clock!

Also available 1-3 flavor fully automatic cup vender.

Ask your dealer
OR WRITE TO
Meterflo®
DISPENSERS
Niles, Michigan

Floor Model F-2 with or without leg or casters

FOR BETTER, STRONGER WALLS USE WAL-LOK

MORTAR JOINT REINFORCING

DEFORMED AND KNURLED FOR A POSITIVE BOND
CROSS BAR HOLDS SIDE BARS UP
GALVANIZED CROSS RODS PROJECT
SO THE MORTAR GRIPS ALL THE WAY AROUND

IT BONDS BETTER

WAL-LOK

WRITE TODAY FOR BROCHURE!!

ADRIAN PEERLESS, INC.
1406 E. MICHIGAN • ADRIAN, MICH.

THE FINEST EXPRESSION OF MARBLE IN TRANSLUCENT VINYL

Crystalite Solid Vinyl Tile—
newest style from Kentile® Floors

Beautifully controlled mottling highlights the luxurious colors and subtle shadings seen deep *within* each tile. Use Bright Gold Feature Strip for metallic effects.

Crystalite can be installed on, below, or above grade with proper adhesive. For samples and full details, call your Kentile Flooring Contractor.

SPECIFICATIONS:
CRYSTALITE SOLID VINYL TILE

Colors: Doric White, Trojan Alabaster, Corinthian Gold, Athenian Pink, Ionian Gold, Theban Jade

Sizes: (Standard) 9" x 9", 12" x 12", 37" x 37" (untrimmed); (Special) 9" x 18", 18" x 18", 24" x 36", 36" x 36"

Thickness: ⅛"

KENTILE FLOORS

AVAILABLE IN CRYSTALITE VINYL • SOLID VINYL • VINYL ASBESTOS • RUBBER • CORK • AND ASPHALT TILE • OVER 175 DECORATOR COLORS.

30% Savings on Labor Cost
A Permanent Bond
A Better, Neater Job

with

ST. CLAIR

Specially Formulated

INSULATION ADHESIVE

ST. CLAIR Insulation Adhesive specially formulated for bonding insulation material to metal, supersedes pins and clips, wires, screws, and caps. Provides easier, quicker handling. For bonding immediately or up to 45 minutes later.

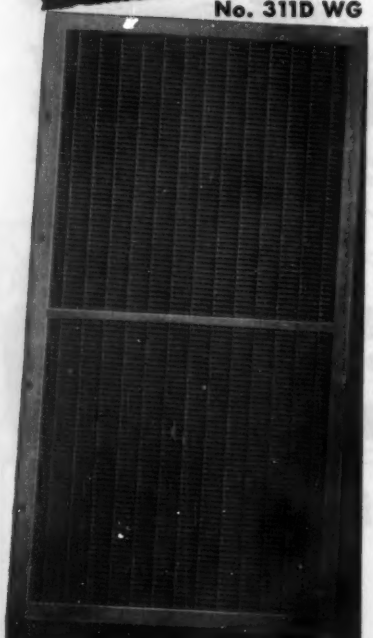
Send Today For
CATALOG SHEET—PRICES
SAMPLE

ST. CLAIR RUBBER CO.
440-A EAST JEFFERSON AVE.
DETROIT 26, MICHIGAN

"Fabrikated"
WALL GRILLES

Made To Order
In Special
LARGE SIZES

No. 311D WG



CHECK THESE FEATURES:

- Vertical or horizontal bars strengthened by interlocking cross bars; no vibration.
- Tamper-proof. Changes in air distribution cannot be made by unauthorized persons.
- Mesh (⅜ x 1 1/16) filters 72% of free area yet darkens the duct and reduces highlights from back of the grille.
- 14 gauge steel solid bars ½" deep—strong enough to be "kick-proof"—(a must for schools).
- All bars made from round edge stock. No sharp edges. (A must for schools.)
- The only grille for taking abuse in school gyms and hospital psychopathic wards.

Independent famous "Fabrikated" construction makes these grilles especially adaptable to large sizes for schools, hospitals, hotels, and other commercial buildings. Immediate service because we always stock grille parts for any size.

THE INDEPENDENT
REGISTER CO.
3747 E. 93rd St., Cleveland 5, Ohio

Washington Topics

and bacteria, detergents, insecticides, radioactive contaminants, and other substances which can make water unfit or unsafe, HEW explained.

Addenda

The program of Federal aid for airport construction and improvement —what was left of it at least—was scheduled to pass from the Civil Aeronautics Administration in the Commerce Department to the new Federal Aviation Agency. Congress created the new FAA and directed that it absorb the functions of CAA and most of the duties of the Civil Aeronautics Board, also a Commerce agency. President Eisenhower last month named Lt.-Gen. Elwood R. Quesada (USA-ret.) to head the new unit. He had been the President's special adviser on aviation matters. Also to FAA go the functions of the Airways Modernization Board, an organization also headed by General Quesada. The construction assistance program is running out its string since President Eisenhower vetoed the measure which would have extended it beyond the June 30 expiration. All contract authorization was allotted to states months ago.

Construction grants for health research facilities numbered 177 and involved $30,200,095 in Federal funds for non-Federal institutions during the fiscal year ending June 30, the U.S. Public Health Service said. Grants to help build, equip, or expand the 177 research facilities were awarded on a matching basis to 134 institutions throughout the country.

The Business and Defense Services Administration of the Commerce Department issued new figures for estimated maintenance and repair expenditures in the construction industry showing that in 1957 the figure advanced to a new high of $17.7 billion. The total for last calendar year exceeded the old record of 1956 by $800 million, or four per cent. This continued a long-term climb. The statistics were from a study just completed by the Construction Industry Division of the BDSA. All major classifications of construction shared in the increase, the agency pointed out. The increase in outlay was due to higher unit costs applied to more structures and facilities rather than to a greater amount of work on the average structure or facility, the announcement explained.

there's so much to choose from at...

HOTEL CLEVELAND

Cleveland Room
Dine in the splendid old world setting of a grand dining room. The menu is varied, the service unexcelled.

Bronze Room
One of the brightest of the city's supper clubs. Dancing nightly from 9:00 p.m.
Air conditioned, of course.

Rib Room
A true specialty restaurant . . For Fabulous Roast Beef, roasted, carved and served to your order.

MEN'S BAR
Strictly stag — is this all male haven for good drinks, good food and good talk. Plus sports events on TV.

TRANSIT BAR
For *rapid* service in the most unique bar in the country . . decorated with an outstanding collection of miniature trains.

the PATIO
Pause — in the relaxing, informal atmosphere of the gayly decorated Patio. It's a Cleveland habit to say — "Meet me at the Patio."

Coffee Shop
Service is brisk and decor cheerful in the modern, air-conditioned coffee shop. Enjoy a tasty sandwich or a moderately priced meal.

HCA Hotel Cleveland
CLEVELAND, OHIO

DODGE BOOKS

. . . . year 'round or at

Christmas — fine gifts

for anyone in the

construction industry

THE STRUCTURES OF EDUARDO TORROJA

an autobiography of engineering accomplishment

Eduardo Torroja, famous Spanish architect-engineer, has written a book which illustrates, describes, and explains the 30 most significant accomplishments of his career. These structures include bridges, dams, hangars, sports arenas, factories and churches. Many are of reinforced concrete — for Torroja's most unusual engineering feats are in pre-stressed and post-tensioned concrete — but wood, brick, and steel are used as well.

The book shows the author's reasoning in arriving at the design of each structure, and reveals his unusual building philosophy. Engineering details are given. There is a profusion of photographs, plans and drawings — over 275 in all.

208 pages, 7 x 9¾, $8.50

BUILDINGS FOR RESEARCH

by the editors of Architectural Record

This timely book analyzes in detail a wide variety of research facilities built by industry, government agencies, and universities during the past seven years — 44 separate projects. The installations shown are in these fields: Nuclear research, Industrial engineering, Biological research, Electronics and electrical engineering, and Institutional laboratories.

Opens with a general discussion of the principles of laboratory design, with emphasis on the ingredients common to all laboratories. Every point is made clearer by the inclusion of numerous photographs, plans, diagrams — over 500 illustrations in all.

232 pages, 8¾ x 11⅛, $9.50

CONSTRUCTION ACCOUNTING AND FINANCIAL MANAGEMENT

by William E. Coombs

The first, and only, complete manual of accounting and financial control for the construction industry, written by a specialist who has served as an attorney, accountant, and executive in the construction business.

Describes and specifically recommends proper accounting and management procedures. Tells you what records to keep, why they must be kept, and several possible ways of keeping them. Relates accounting and record keeping to the size of the firm, type of job, and never loses sight of the fundamental purpose — giving you effective financial control over every operation. Contains 200 tables, charts, and sample forms.

488 pages, 6 x 9, $12.85

GROUNDS MAINTENANCE HANDBOOK (Second Edition)

by Herbert S. Conover

The only comprehensive reference work of grounds development and maintenance. Contains all the detailed information you need to plan, supervise and maintain grounds of every type and size.

It is a big book, and fully illustrated (over 175 illustrations). It consolidates all the needed information on planning, turf maintenance, planting and care of trees and shrubs, equipment selection, control of weeds, insects and diseases, materials specifications, and erosion control. Throughout the book practical, economical methods and materials are stressed.

503 pages, 6 x 9, $10.75

THE SELECTION OF RETAIL LOCATIONS

by Richard L. Nelson

A new book which provides the newest trends and techniques in site selection and potential volume analysis for stores, shopping centers, banks, restaurants and other establishments. The author is a noted real estate economist.

Answers your questions on anticipating geographic trends, future of the downtown area, determining the volume potential of an area, rent-advertising ratios, effects of decentralization, compatibility of store types, and many more topics. With this book you can estimate business potential of a site, evaluate its growth capacity, and appraise the influence on the proposed business of other stores in the vicinity.

384 pages, 6 x 9, $9.00

THE CONTEMPORARY CURTAIN WALL

its Design, Fabrication and Erection

by W. Dudley Hunt, Jr.

One of the most important recent developments in the construction industry, curtain wall construction is still so new that there is a great demand for information on proper methods of design, construction and installation. Meeting that demand, this new book presents, for the first time in one place, a wealth of new information about this construction system.

Analyzes and evaluates the walls, their functions, their component parts, materials and installation. Lists and tables give all the known data about insulation, fire resistance, dimensional stability. Amply illustrated with drawings and photographs.

468 pages, 7 x 9¾, $12.75

FIELD INSPECTION OF BUILDING CONSTRUCTION

by Thomas H. McKaig, B.Arch., C.E.

A guide to the supervision of construction for architects, engineers, and field inspectors which charts a clear path through the maze of owner-architect-contractor-subcontractor relations and responsibilities. Defines responsibilities for such matters as quality of materials and workmanship, coordination of work by different trades, safety precautions, safeguarding of work in place, and many more.

Outlines the pitfalls the inspector should avoid, and gives him guidance in safeguarding the owner's interests against a variety of contingencies, without exposing him to charges and possible claims for interference or delay.

384 pages, 6 x 9, $9.35

APARTMENTS AND DORMITORIES

by the editors of Architectural Record

In response to numerous requests for information on this building type, the editors of *Architectural Record* have selected 48 superior examples of apartment houses, college residence halls, and other multiple dwellings, designed by some of the world's leading architects. The buildings range in size from two-family houses to vast housing projects.

In addition to the buildings, there is a section containing useful technical information, and a series of studies on trends in apartment buildings and community development. Over 250 illustrations.

238 pages, 8¾ x 11⅛, $8.95

ESTIMATING GENERAL CONSTRUCTION COSTS

by Louis Dallavia

Provides an accurate, foolproof system for estimating all direct production costs in earthwork, reinforced concrete, masonry, structural steel, and carpentry. This unique system can be applied at any time and in any place with equal validity, and can never go out of date. It was developed and perfected by the author during his 22 years as an estimator in heavy construction and building.

Presents an index set of unit costs for typical shift crews, against which you compare local crews, arriving at a productivity percentage. By checking that figure against only three tables, you arrive at the shift cost, output range, and unit cost of the operation. There is a total of 160 tables and checklists in the book.

205 pages, 6 x 9, $8.50

RELIGIOUS BUILDINGS FOR TODAY

by the editors of Architectural Record

Presents 35 new religious buildings, each of which is the work of a gifted architect collaborating with a clergyman and building committee who were not afraid to break with the architectural past. Protestant, Catholic, and Jewish buildings are shown, from all parts of the United States as well as Europe and Asia. Each is shown in brilliant photographs, and plans and drawings.

There are several other sections. One is called "Worship and the Arts". It explores the relationship between eternity and the present, as it pertains to the design of churches. There follow six articles on worship and the arts in different traditions — Jewish, Catholic, Orthodox, Episcopal, Reformed, and Lutheran. Also contains cogent studies by leading architects, clergymen, and secular authorities. Over 300 excellent illustrations.

184 pages, 8¾ x 11⅛, $7.50

THE MODERN CHURCH

by Edward D. Mills

A comprehensive study of the requirements and design standards of Christian churches. Covers new church construction step by step from the site selection and approval by church authorities through acoustics, materials, furnishings and religious art, and building costs. Some 200 illustrations of the best in contemporary church architecture in America and Europe.

189 pages, 7 x 9½, $9.75

ADVENTURE IN ARCHITECTURE

by Whitney S. Stoddard

The exciting story of the rebuilding and expansion of 100-year old St. John's monastery in Minnesota. The client is the Benedictine order of monks. The architect is Marcel Breuer. How he was selected, the rapport established between him and the building committee, and the flexible master-plan they drew are all explained here. The text has a narrative quality, and the 100 photographs and drawings cover every phase of the project.

128 pages, 8½ x 11, $8.50

THE CHAPEL AT RONCHAMP

by LeCorbusier

LeCorbusier's own account and explanation of the chapel of Notre Dame du Haut, which is one of the truly revolutionary buildings of our time. He presents the building in its 3 facets: as a place of worship, as a work of art, and as a practical exercise in architecture and construction. Contains notes and sketches in LeCorbusier's own handwriting.

136 pages, 7¾ x 8⅛, $5.50

PLANT ENGINEERING PRACTICE

by the editors of Plant Engineering

The mammoth new reference work of plant operation and maintenance. Presents 226 separate case studies, each of which is designed to save time, work and money for the plant engineer and his staff, and architects and engineers doing industrial building work. Over 800 illustrations.

704 pages, 8¾ x 11⅛, $18.50

HOW TO BUILD MODERN FURNITURE (Second Edition)

by Mario Dal Fabbro

Clear, easy-to-follow instructions for building your own professional quality furniture, plus step-by-step plans for 53 contemporary pieces by a famous furniture designer.

The first section gives instruction in basic woodworking operations, selection of materials, joints, assembly, wood finishing, and upholstery. Standard measurements of all furniture pieces are listed.

The second section presents 53 separate furniture pieces: Hi-fi cabinets, chests, tables, chairs, beds, and many others. Text is brief and clear — unique exploded diagrams do most of the teaching. Each project contains a list of materials, directions for assembling, and several plans and diagrams. There are over 1200 diagrams and drawings in all.

224 pages, 7⅛ x 9¾, $4.95

HOW TO MAKE BUILT-IN FURNITURE

by Mario Dal Fabbro

Step-by-step instructions for constructing 102 contemporary built-ins. Indispensable for making any home more livable, beautiful, and spacious with expertly-designed, easily-made built-ins. This practical book presents unique sequence plans and illustrations which virtually eliminate the errors and miscalculations which arise in these projects. Projects can all be built from standard grades of wood using common woodworking tools.

Included are pieces for living rooms, kitchens, bedrooms, playrooms, attics and cellars. Hundreds of variations and adaptations can be made from these unusual plans, and the book is also an excellent source of data for designing your own built-in projects.

259 pages, 7⅛ x 9¾, $6.95

BUILDINGS FOR INDUSTRY

by the editors of Architectural Record

An outstanding selection of new industrial buildings, together with a series of informative studies on trends and factors in present-day industrial building design. 74 projects from all over the United States, as well as a few from overseas, are completely analyzed. Explains choice of site, plan, lighting, colors, loading docks and rail spurs, employee facilities, and many more features. Over 700 illustrations.

315 pages, 8¾ x 11⅛, $9.75

THE ART OF HOME LANDSCAPING

by Garrett Eckbo

Here is the book which helps the user recognize his landscaping needs, plan them on paper, substitute pencil work for shovel work, and eventually provide useful, beautiful outdoor space to the limits of his lot. Especially valuable to the new home buyer or builder, who cannot afford the services of a landscape architect, and cannot afford to make costly mistakes in his basic planning.

Covers in detail such topics as: Recognizing your needs, Plans, Scheduling work and money, Screenings, Walls, Drainage, Soil conditions, Solar orientation, Weather considerations, and many more. Profusely illustrated.

256 pages, 6⅛ x 9¾, $5.95

LANDSCAPE FOR LIVING

by Garrett Eckbo

This professional-level volume examines the purposes, problems, and practices of landscape design. Entire sections are devoted to materials, plants and planting, site conditions, structural factors, gardens, public buildings, group housing. Included are many photographs, renderings, and diagrams of fine landscaping.

288 pages, 8 x 10½, $10.00

TIMBER DESIGN AND CONSTRUCTION HANDBOOK

prepared by Timber Engineering Company

The complete master handbook of timber design and construction, written and edited by 34 engineers and timber specialists. Serves two purposes: It is a comprehensive timber design refer-

ence, and it is also a practical field handbook. Offers every bit of essential information needed to develop and construct the best wood structures.

The first portion covers the fundamental structural characteristics of wood. Lists types, grades, and ways of preservation. The next ten chapters analyze preliminary design considerations, design details, fabrication and erection. The final chapter presents 129 pages of design and engineering specifications and precise tabular data allowing easy conversion for particular grades and species.

622 pages, 6 x 9, $12.75

ARCHITECTURAL ENGINEERING

by the editors of Architectural Record

100 case studies which present the latest developments in architectural engineering. Each study was chosen for being a detailed, up-to-date source of specific information for which there is current professional demand.

The book is composed of six extensive sections: The Building Shell, Environmental Control, Utilities, Site Planning, Materials, Special Problems. The book is complete with over 1,400 plans, diagrams and photographs.

495 pages, 8¼ x 11⅛, $11.50

APPLIED STRUCTURAL DESIGN OF BUILDINGS

by Thomas H. McKaig, Consulting Engineer

A practical office manual containing simple, standardized procedures for solving structural design problems. This unique handbook had its inception as a series of notes used by the author in his instruction of architects and engineers preparing for state licensing examinations. Strictly a practical work with no attempt made to develop theory, which is obtainable in any textbook.

The structural designer will find in simple, convenient form the processes which will serve him best as working tools. Here are short cuts, tables, formulae, sketches — a wealth of practical information — all designed to save countless hours of detail, help standardize office practice and simplify the designer's work. Every piece of information in this book has been tested, by actual experience and proven to be reliable and useful.

442 pages, 7⅛ x 10, $12.50

JAPANESE TEMPLES AND TEA-HOUSES

by Werner Blaser

The English edition of a prize-winning Swiss book, profusely illustrated with brilliant photographs (8 in full color), line drawings and plans of classic examples of Japanese architecture. Its thoughtful text examines the social, historical, and spiritual forces which produced this highly defined art, and gives — as a result — a richer, new perspective in which to view all architecture, including our own contemporary work.

Although the text is lucid and analytical, it is the author's intention to let the photographs speak for themselves; in Blaser's own words, ". . . to suggest how these structures might shadow forth a new spiritual style for the West."

156 pages, 9¼ x 12¼, $12.75

STRUCTURES

by Pier Luigi Nervi

Pier Luigi Nervi of Rome draws on over 30 years of experience as architect, engineer, and builder. Contains much valuable information on the properties of concrete and "Ferro-cemento", which was developed by the author and used by him in the construction of some of the largest and most beautiful thin-shell concrete structures in the world.

Alternately practical and philosophical, the book considers such varied subjects as architect-client relations, training of designers and builders, theory of structures, and building in reinforced concrete. Contains photographs of all of Nervi's major works, as well as numerous sketches and plans.

118 pages, 7¼ x 9⅞, $6.95

NEW GERMAN ARCHITECTURE

by G. Hatje, H. Hoffman, K. Kaspar

A brilliant study of the renaissance of German architecture from 1945 until the present. The best of all postwar construction is presented — a total of 133 projects of all types, each illustrated with 3 or more photographs, plans, and sketches, and each discussed in a frank, constructive text. Over 550 photographs and drawings.

220 pages, 7¾ x 10¼, $11.50

PRACTICAL HOUSES FOR CONTEMPORARY LIVING

by Jean and Don Graf

Displayed in this new book are forty houses with "built-in personalities" — houses that reflect their owners' tastes and living habits. Selected from all regions of the U. S., they represent many prevailing styles of architecture, and prices range from $7500 up.

174 pages, 8¾ x 11¼, $6.95

A TREASURY OF CONTEMPORARY HOUSES

by the editors of Architectural Record

Here are 50 contemporary houses designed by some of the world's leading architects; the ultimate in quality contemporary design.

Most of the houses are depicted in 10 or more photographs, illustrations and plans. The story behind each house is presented simply in its essentials with no involved technical language.

215 pages, 8¾ x 11⅛, $5.95

82 DISTINCTIVE HOUSES

selected from Architectural Record

On display here are 82 of the finest houses published in *Architectural Record* in the past few years. Each house is depicted in superb interior and exterior photographs which dramatize its design and convey its individuality.

These 82 houses represent a wide range of localities, living habits, personal tastes, and sites. Comprising the last 100 pages are special Time-Saver Standards data for Houses.

437 pages, 8⅜ x 11⅛. Illustrated. $8.00

ERIC MENDELSOHN

(Second Edition)

by Arnold Whittick

A thoughtful, handsomely illustrated study of the works and life of one of the outstanding architects of our time. Covers Mendelsohn's work from 1919 until his death in 1953. Seventy-five of his major projects are shown — in Germany, England, Israel and the United States. Over 175 illustrations.

219 pages, 7¼ x 10⅝, $9.85

TIME-SAVER STANDARDS

(Third Edition)

by the editors of Architectural Record

Since 1946 *Time-Saver Standards* has served as a working partner to thousands of architects, engineers, designers, builders, and other specialists in the construction field. Users consider this book the one indispensable reference to any and every question of building principle, practice, and procedure. As a daily working tool on construction projects of every size, description, and dollar value, *Time-Saver Standards* has saved endless hours of research time, immeasurable extra work, and many costly mistakes, as well as millions of dollars on construction costs.

888 pages, 8½ x 11, $12.50

DESIGN FOR MODERN MERCHANDISING

by the editors of Architectural Record

Here is a detailed study of the physical design of selling establishments of all types: stores for soft goods and hard goods, food stores, department stores, wholesale showrooms, and shopping centers. Over 600 photographs, plans and diagrams take the reader through a vivid selection of successful selling establishments.

247 pages, 8¾ x 11⅛, $8.95

MOTELS, HOTELS, RESTAURANTS AND BARS

by the editors of Architectural Record

Emphasis here is on current design trends, techniques and structural features. Within each category, buildings of many sizes, styles, and localities are included. Each project is profusely illustrated with photographs, plans and renderings.

215 pages, 8¾ x 11⅛, $6.95

DESIGN AND CONSTRUCTION OF GENERAL HOSPITALS

by the U. S. Public Health Service

Step-by-step guidance in planning the general hospital. 30 master plans for hospitals of every size are shown. Each plan is fully detailed, and visualized in skillful rendering. Site plans and numerous tables and charts are also included.

214 pages, 8¾ x 11⅛, $12.00

COMMERCIAL BUILDINGS

by the editors of Architectural Record

Office buildings, banks, transportation buildings, TV studios and theaters are shown here in photographs, plans, and drawings. All of them clearly demonstrate the new materials and methods which have won acceptance in recent years.

406 pages, 8¾ x 11⅛, $9.75

SCHOOLS FOR THE NEW NEEDS

by the editors of Architectural Record

66 new school buildings which are working proof that sound planning can pay off in better buildings at lower costs. Elementary and secondary schools are shown from all areas of the country. Over 900 illustrations.

312 pages, 8¾ x 11⅛, $9.75

SCHOOL PLANNING AND BUILDING HANDBOOK

by N. L. Engelhardt, N. L. Engelhardt, Jr., and Stanton Leggett

The authoritative work which contains every item of basic information needed to execute a successful school building program. Analyzes and defines the exact duties of every party in the building program. Provides complete checklists and specimen contracts covering every contractual relationship.

626 pages, 6 x 9, $12.75

PLANNING ELEMENTARY SCHOOL BUILDINGS

by N. L. Engelhardt, N. L. Engelhardt, Jr., and Stanton Leggett

A comprehensive study of design standards, equipment, and facilities required for today's elementary school buildings. Traces the pattern of daily pupil-teacher-administrative activities, and relates them to the problems of physical design. Over 250 excellent illustrations.

268 pages, 8¾ x 11⅛, $12.50

TOWARD BETTER SCHOOL DESIGN

by William W. Caudill

Relates school design to the aims and methods of education, to the influence of environment on the learning process, and to the role of schools as community institutions. Shows how the planner must assess each factor to arrive at an architectural solution. Includes 91 case studies where the author's approach has resulted in better schools.

288 pages, 8¾ x 11⅛, $12.75

PLANNING STORES THAT PAY

by Dr. Louis Parnes

In this book Dr. Parnes demonstrates the amazing degree to which good design speeds and increases sales in department stores and specialty chain stores. With more than 500 illustrations, this book explores each detail of the store and its equipment — entrances, arcades, show windows, furniture and fixtures, receiving services, departmental and floor layouts, display counter and cabinets, lighting.

380 pages, 8¾ x 11, $10.00

MAIL THIS 10-DAY EXAMINATION REQUEST

DODGE BOOKS 963

119 West 40th Street, New York 18, N. Y.

Send me the books I have checked below. Within 10 days after receiving them I shall remit payment plus a few cents postage or return any or all of them without obligation.

NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

☐ *My check is enclosed. I pay no postage and have same return privilege.*

☐ Adventure in Architecture	$8.50
☐ Apartments and Dormitories	8.95
☐ Applied Structural Design of Buildings	12.50
☐ Architectural Engineering	11.50
☐ The Art of Home Landscaping	5.95
☐ Buildings for Industry	9.75
☐ Buildings for Research	9.50
☐ The Chapel at Ronchamp	5.50
☐ Commercial Buildings	9.75
☐ Construction Accounting and Financial Management	12.85
☐ The Contemporary Curtain Wall	12.75
☐ Design and Construction of General Hospitals	12.00
☐ Design for Modern Merchandising	$8.95
☐ 82 Distinctive Houses	8.00
☐ Eric Mendelsohn	9.85
☐ Estimating General Construction Costs	8.50
☐ Field Inspection of Building Construction	9.35
☐ Grounds Maintenance Handbook	10.75
☐ How to Build Modern Furniture	4.95
☐ How to Make Built-In Furniture	6.95
☐ Japanese Temples and Tea-Houses	12.75
☐ Landscape for Living	10.00
☐ The Modern Church	9.75
☐ Motels, Hotels, Restaurants and Bars	6.95
☐ New German Architecture	11.50
☐ Planning Elementary School Buildings	12.50
☐ Planning Stores that Pay	10.00
☐ Plant Engineering Practice	18.50
☐ Practical Houses for Contemporary Living	6.95
☐ Religious Buildings for Today	7.50
☐ Schools for the New Needs	9.75
☐ School Planning and Building Handbook	12.75
☐ The Selection of Retail Locations	9.00
☐ Structures	6.95
☐ The Structures of Eduardo Torroja	8.50
☐ Timber Design and Construction Handbook	12.75
☐ Time-Saver Standards	12.50
☐ Toward Better School Design	12.75
☐ Treasury of Contemporary Houses	5.95

HOME INSURANCE...

Save paint, wood, metal with MIDGET LOUVERS

Controls moisture vapor, eliminates rot, corrosion, excessive heat . . . just drill hole, press into place, no nails, screws, special tools. Available in aluminum anodized aluminum, chrome, copper . . . all screened. Regular (rain shielded) and L.D. Series, sizes 1" thru 6". Install in wood, metal, concrete.

Write for home preservation information

MIDGET LOUVER COMPANY

6 WALL STREET NORWALK, CONN.

No, Mom, the children are not sleeping — you just can't hear them from this —

BURGESS-MANNING ACOUSTI-BOOTH

Hear well—be heard well—in the noisiest places with a Burgess-Manning Acousti-Booth.

Write for Bulletin A-142-2A

3 Heating Cooling Acoustical

BURGESS-MANNING COMPANY

Architectural Products Division

5970 Northwest Highway, Chicago 31, Ill.

the A.I.A. warns

architects and building owners concerning the purchase of materials finished outside the United States. Experience has proven that attempts to achieve extraordinary economies by having marble finished abroad frequently result in added cost and insurmountable problems.

A new marble specification, recently released by the M.I.A., reads as follows:

> *"All imported marble shall be selected from available stocks in this country, or, if imported, the marble shall be delivered in this country in rough form. All finishing, including selection and jointing to size, polishing, cutting and carving, shall be executed in the United States."*

The Marble Institute of America has issued a bulletin incorporating the warning of The A.I.A. This is available without cost.

MARBLE MIA INSTITUTE OF AMERICA, INC.

32 SOUTH FIFTH AVE., MOUNT VERNON, N.Y.

MAXIMUM SECURITY

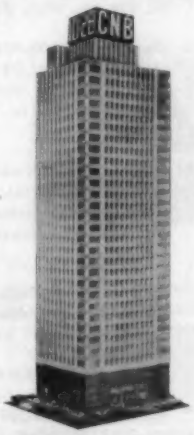
at

CONTINENTAL NATIONAL BANK BUILDING

with

TELKEE

the complete system of positive key control



In Fort Worth's new C N B Building—and in thousands of stores, schools, plants and buildings across the country—a **TELKEE** System assures constant, fool-proof control over the keys to every lock.

TELKEE keeps keys in authorized hands; eliminates problems of lost keys; cuts costs of replacement locks and keys.

Available in capacities from 21 to 2240 key changes, there's a **TELKEE** System to fit your property, large or small. Write today for "The Key To The Whole Thing".

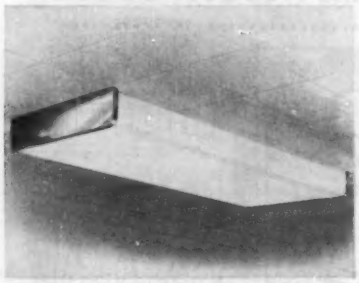
P. O. MOORE, INC.

A Subsidiary of SUNROC Corporation

TEL KEE The MOORE KEY CONTROL System

GLEN RIDDLE 29 PENNSYLVANIA

A modern classic in design that gives you efficient, *shadow-free* lighting!



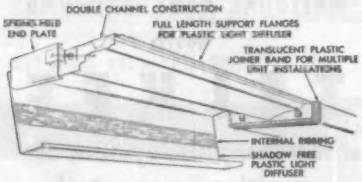
Sun-Lite's new VENUS

4700 Series Fixtures

You'll find these Venus fixtures *styled* to enhance interiors of schools, offices, shopping centers and other commercial buildings—*designed* to provide highly efficient, low-brightness, shadow-free illumination! The smooth, wrap-around plastic diffuser gives light right up to the ceiling—and a special plastic joiner band permits installation of units in a line without unsightly connections!

What's more, they're easy to install—easy to maintain, too! Just pull out the spring-held end plate to swing the light diffuser down for quick access, easy cleaning.

The new Venus fixtures are available in 12" wide 2 lamp and 15" wide 4 lamp models in standard and slimline lengths.


DOUBLE CHANNEL CONSTRUCTION
SPRING-HELD END PLATE
FULL LENGTH SUPPORT FLANGES FOR PLASTIC LIGHT DIFFUSER
TRANSLUCENT PLASTIC JOINER BAND FOR MULTIPLE UNIT INSTALLATIONS
INTERNAL WIRING
SHADOW FREE PLASTIC LIGHT DIFFUSER

Sun-Lite has a complete line of fixtures to meet all your building requirements. Send for complete information today!

Sun-Lite MANUFACTURING CO.

2555 Bellevue Ave., Detroit 7, Michigan

Dept. N., SUN-LITE MANUFACTURING CO.
2555 Bellevue Ave., Detroit 7, Michigan

Gentlemen: Please send me complete information on your VENUS 4700 commercial fixtures.
☐ Include your new lighting catalog.

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State____

Required Reading

continued from page 64

Other Books of Interest

GUIDE TO WESTERN ARCHITECTURE. *By John Gloag. Macmillan Co., 60 Fifth Ave., New York 11. 407 pp., illus. $12.50.*

This is a valuable general history, from 600 B.C. to the present.

ARCHITECTURE, YOU AND ME: THE DIARY OF A DEVELOPMENT. *By S. Giedion. Harvard University Press, Cambridge 38, Mass. 221 pp., illus. $5.*

Most of this book first appeared in the form of articles and lectures. Monumentality, the architect-painter-sculptor relationship, the renewal of the human habitat, and the demand for imagination are some of the topics.

GAUDI. *Edited by J. Prats Vallés. Preface by Le Corbusier. George Wittenborn, Inc., 1018 Madison Ave., New York 21. 60 pp., illus. $5.75.*

A fine collection of photographs, some in color, of Gaudi's work. The book, printed in Spain, has text in English, French, and Spanish.

LEARNING TO LOOK: A HANDBOOK FOR THE VISUAL ARTS. *By Joshua C. Taylor. University of Chicago Press, 5750 Ellis Ave., Chicago 37. 152 pp., illus. $4.50.*

HOW TO ESTIMATE THE BUILDING NEEDS OF A COLLEGE OR UNIVERSITY: A DEMONSTRATION OF METHODS DEVELOPED AT THE UNIVERSITY OF MINNESOTA. *By William T. Middlebrook. University of Minnesota Press, Minneapolis 14. 169 pp., illus. $15.*

DIE ARCHITEKTONISCHE GROSSFORM: GEBAUTES UND GEDACHTES. *By Otto Ernst Schweizer. Distributed by George Wittenborn, Inc., 1018 Madison Ave., New York 21. 197 pp., illus. $7.50.*

PROCEEDINGS OF THE 1958 DAY HOSPITAL CONFERENCE: A MENTAL HOSPITAL DESIGN CLINIC. *American Psychiatric Association, 1700-18th St., N. W., Washington 9. 129 pp., illus. (offset). $2.*

THE GOLDEN NUMBER. *By M. Borissavlievitch. Philosophical Library, Inc., 15 E. 40th St., New York 16. 91 pp., illus. $4.75.*

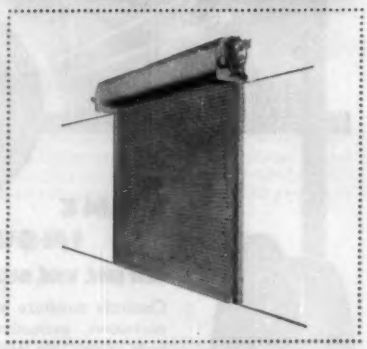
A LIBRARY OF ARCHITECTURE AND BUILDING *(bibliography). Compiled by Jane D. Spoore. Rensselaer Polytechnic Institute, Troy, N. Y. 27 pp. (offset). $1.*

PUBLICATIONS RELATING TO URBAN RENEWAL: 1957 *(bibliography). Public Library, 499 Penna. Ave., N.W., Washington 1. 49 pp. (mimeo.). Free with 5¢ stamped, addressed envelope.*

WASHINGTON: CITY ON THE POTOMAC. *Sketches by Fritz Busse. Text by Russell Baker.* NEW YORK: CITY ON MANY WATERS. *Sketches by Fritz Busse. Text by Meyer Berger. Arts, Inc., 667 Madison Ave., New York 21. Each 60 pp. $3.50 and $2.95, respectively.*

Balfour

automatic rolling fire doors



- **Underwriters' Laboratories labeled for 3 hour rating**
- **efficient service doors at all times**
- **automatic fire door protection ever present**
- **constant guardians against fire loss**

Only rolling fire doors have so many advantages . . . day to day opening and closing ease . . . 3 hour fire retarding effectiveness . . . space saving compactness . . . unmatched security features . . . easy installation.

Balfour rolling fire doors have additional advantages. They take less space and can be completely hidden above the ceiling. Balfour's rolling fire doors shut automatically at a safe, constant speed and can be manually operated for emergency exit. After exit they automatically close again.

Write for full specification details, a complete catalog or see our insert in Sweet's.

Walter Balfour & Co. Inc.

Brooklyn 22, New York

PRACTICAL GLAMOUR FOR ANY CLOSET

Complete line of steel doors, frames and closet units for commercial and residential construction. Send for catalog today, or see Sweets files.

AMWELD BUILDING PRODUCTS

A Division of
THE AMERICAN WELDING & MFG. CO., 342 Plant St., Niles, Ohio

Bonded "Electro-Sheet" Copper in CONCEALED FLASHING Gives Enduring Protection

"Electro-Sheet" is pure thin copper produced by electro-deposition in long, wide rolls—in weights of from 1 to 7 ounces per sq. ft.

Durable and Economical—When bonded to other materials, for flexibility and easy handling, it provides a lasting product for concealed flashing and dampproofing uses at relatively low cost.

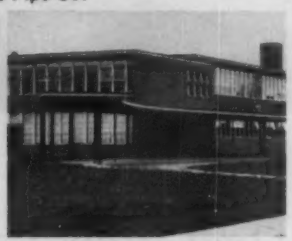
In a Variety of Forms—"Electro-Sheet" is furnished to manufacturers who bond it to high-grade building papers and fabrics, or coat it with asphaltic compounds. The finished products are available in long lengths, and widths to 60". For names of manufacturers, write: The American Brass Co., Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

ANACONDA® "Electro-Sheet" COPPER

How Architects, Engineers
CUT ROOF COSTS with ZONATILE®
PRE-CAST ROOF SLABS

Township H. S. Addition, Neville Island, Penna.
Arch.: Ingham, Boyd & Pratt. Gen. Contr.: B. L. Winner.
Roof Contr.: Neville Concrete Pipe Co.

St. Anselm Elementary Sch., Swissvale, Penna.
Arch.: R. M. Marlier. Gen. Contr.: Larsen Const. Co., Roof Contr.: Neville Conc. Pipe Co.



Mechanicsburg (Pa.) Sr. H. S., Arch.: Wm. Lynch Murray. Gen. Contr.: H. B. Alexander. Roof Contr.: Hitterhouse Concrete Products.

Zonatile saws like wood. One man installs quickly, in any weather, over sub-purlins or standard shapes. Size: 3" x 36" x 18"

Zonatile re-inforced vermiculite concrete roof slabs combine permanence and structural strength with 100% fire safety. Installed at amazing speed in any weather, they save on installation cost and hurry construction. Weighing only 10½ lbs. per sq. ft. they cut the weight and cost of supporting structural materials. The underside of Zonatile is an attractive ceiling finish in itself, or may be decorated in any way.

ZONOLITE COMPANY Dept. AR-118
135 S. La Salle St., Chicago 3, Ill.
Send me Zonatile booklet G-136.

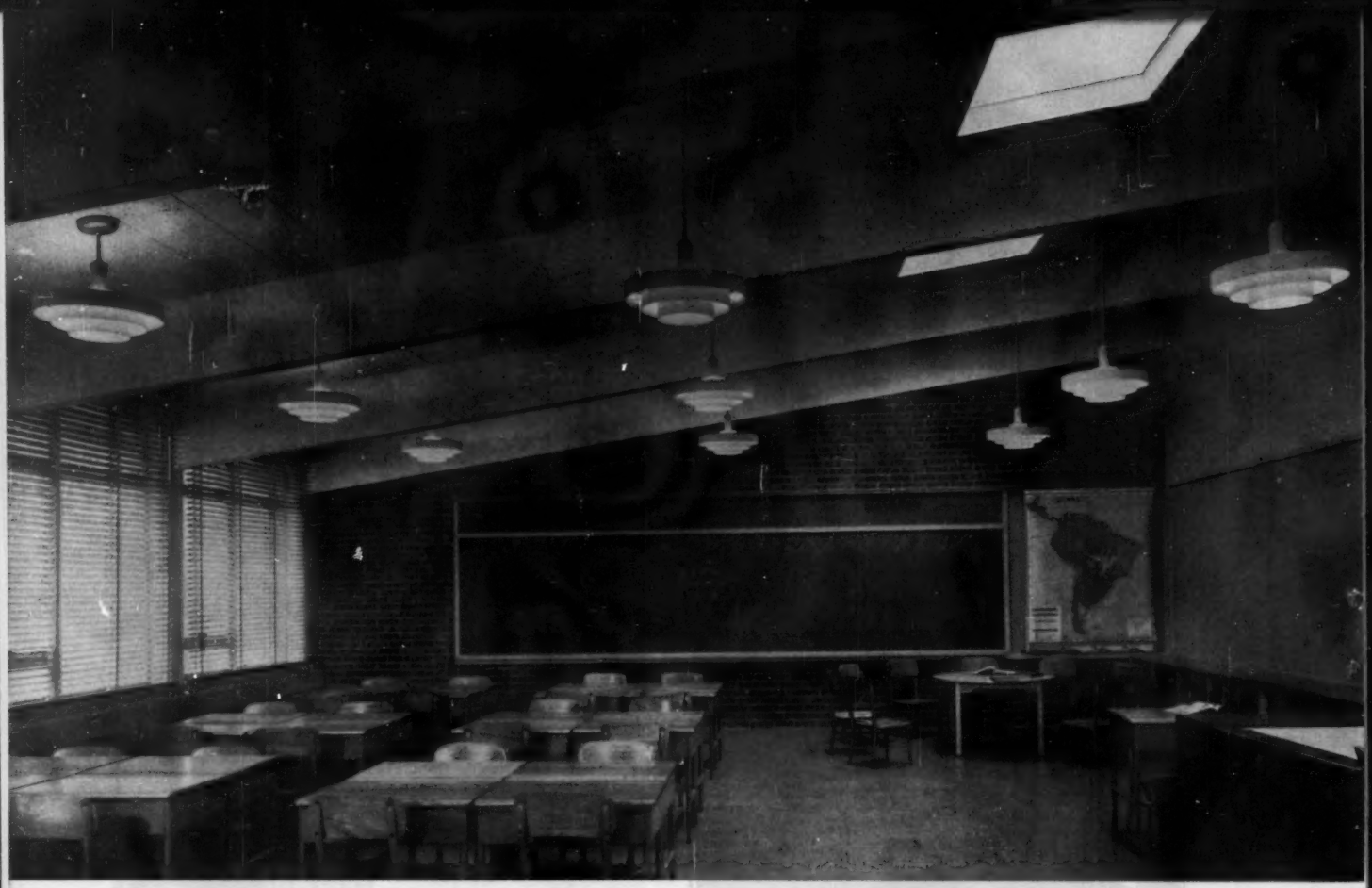
Name_____

Firm_____

Address_____

City_____ Zone_____

State_____



Designed in Timber for Schools of Tomorrow

Permanence, safety, economy of construction and upkeep, beauty, flexibility of design—use any of these yardsticks to measure engineered glulam timber construction by Timber Structures, Inc. and see how well it performs:

Permanent

Seasoned glulam timbers manufactured to engineering detail and joined with engineered connections will last in service far beyond the life expectancy of any school building.

Fire Safe

Natural insulating properties of heavy timbers resist penetration of heat, and the timbers yield strength slowly and stubbornly. Firemen have added time to fight the flames and minimize damage. Timber members do not expand laterally, thus do not collapse outer walls as other materials do.

Economical Construction

Timber members by Timber Structures, Inc. are shop fabricated to full size pattern, and are erected with minimum jobsite labor. Also they promote the economies of true functional construction. With timber members carrying the roof loads, inexpensive curtain walls are sufficient, and bearing partitions are not required. Ceilings may be eliminated, for glulam timbers add to the appearance of the room, and need not be concealed.

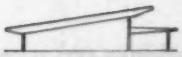
Flexible for Changes

Timber Framing is readily altered and expanded, and easily may be enlarged to meet new conditions of enrollment and curricula.

Easy, Low Cost Maintenance

Timber is not subject to rust and corrosion; so it need not be painted in order to preserve it. Being formed of thoroughly seasoned material, glulam timber members are dimensionally stable and free from seasoning action. Continuing maintenance is not required.

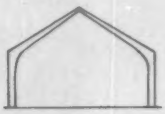
Consult your nearest Timber Structures representative for detailed information and preliminary design data, or write us for the illustrated booklet, "Timber Framing for Modern Schools".



1

Broadmeadow School, Needham, Mass.

Simple construction is promoted by sloping glulam beams which support heavy timber decking with acoustical tiles on under side. Plastic skylight domes admit daylight into the interior of the room. Architect: Hugh Stubbins Associates, Cambridge, Mass. General contractor: Vara Construction Company, Boston.



2

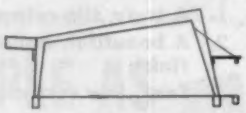
High School Gymnasium, Vero Beach, Florida

Eight glulam timber arches of 93'-6" span are spaced at 12' and covered with 3-inch tongue-and-groove decking. Architects: Duncan, Steward & McVay and William G. Taylor, associate, Vero Beach, Florida. General contractor: Edward M. Fleming Construction Company, Miami.

3

Library, Chico, California Junior High School

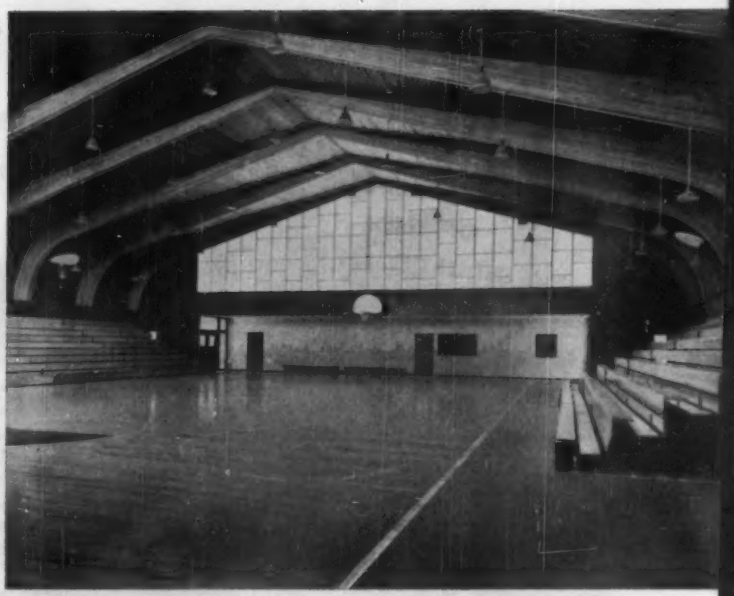
Structural framing features glulam timber arches with arch extensions which permit clerestory lighting on both sides of the room. Architect: Lawrence G. Thompson, Chico. General contractor: Ellis Barker, Salt Lake City.



4

Common Room, Tokeneke Elementary School, Darien, Connecticut

Serves as auditorium and cafeteria. Glulam timber beam-and-column bents support roof deck of heavy timber sheathing. Architects: O'Connor & Kilham, New York City. General contractor: George L. Hickey, Inc., Stamford, Conn.



2

3

4

TIMBER STRUCTURES, INC.

P. O. Box 3782-A, Portland 8, Oregon

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE OR WRITE FOR COPY

Offices in Ramsey, N. J. New York City; Boston; Philadelphia; West Hartford; Cleveland; Charlotte; Chicago; Centerline, Mich.; Kansas City; St. Louis; Minneapolis; Des Moines; Wichita; Memphis; Dallas; Houston; Birmingham; Los Angeles; Seattle; Spokane; Denver.

Local Representatives throughout the United States and Canada

TIMBER STRUCTURES, INC. OF CALIFORNIA
Richmond • Sacramento

SHOWCASE OF THE INDUSTRY . . .

the 14th INTERNATIONAL HEATING & AIR-CONDITIONING EXPOSITION

Under Auspices ASHAE

Convention Hall
Philadelphia
January 26-29, 1959

Here under one roof you will see 450 fact-filled displays on the newest equipment and techniques developed for better control of indoor climate.
This year-round indoor comfort will pay untold dividends in creating space that will be in greater demand, used to better advantage.
See and discuss with representatives of the leading manufacturers just how the latest developments can be put to work for you—On A Profitable Basis.
Make your plans to attend, now. Write the Exposition today for advance registration and hotel information.

14TH INTERNATIONAL HEATING & AIR-CONDITIONING EXPOSITION
480 Lexington Avenue
New York 17, N. Y.
Management: International Exposition Co.

Required Reading

continued from page 60

Planning . . .

or structural plan. Indeed, it is this very integration of multiple facets into a single concept that distinguishes a work of architecture from mere building. With equal force in City Planning, the question of appearance should be integral with the total planning concept.

However, this is not, fortunately, the best of all possible worlds. It is very likely that we must go through the self-conscious process of producing something somewhat similar to the community design plan as advocated by the authors before we will get out of the very bad stage we are now in. We may have to have architectural control by boards, but I do not think we should have a single board for a whole community under any circumstances. I think that all of the responsibility for the three-dimensional aspect of site planning at the governmental level should be left to the Planning Commission and *not* given to a special "design board." And, to my mind, the mark of our success in really treating with the problem of community appearance would be our arrival at the point where architectural control boards could be dissolved (except in historic areas).

Basically, what the report reveals to me is that, if the architects did what they are supposed to do anyhow, only much better, and if the city planners did what they are supposed to do anyhow, only much better, the community appearance problem would be solved and design would be thought of as integral with the whole articulate and clearly structured community.

The Congress of the United States so far has appropriated one and a quarter billion dollars for redevelopment in the belief that the planners and architects can produce a new environment for cities which is worth the price. If we are not to let Congress down, we must evolve means for architects and planners to work together in an effective, functional, and happy way to produce a total result. This book most assuredly helps to start us on the road, but there still is a long way to go.

If only a few more architects realize their responsibility to the larger community in the design of their individual work as a result of reading this book, then it will have done its work well.

Planning Wood Floors for a School?

Mr. Spec Writer

SEAL-O-SAN® finishes offer these 3 advantages

1. *A truly slip-retarding floor*
2. *A beautiful, natural wood finish*
3. *Easy, low cost maintenance*

If you specify Seal-O-San wood finishes for all wood floors in the school, you will have a happy client when the building is in use.

There are many good reasons why Seal-O-San is preferred by thousands of school executives, athletic directors and custodians. These men tell us Seal-O-San out performs all other finishes because it assures non-slipperiness, greater protection of wood, and easier maintenance. Seal-O-San is tough . . . it stays resilient . . . and it is beautiful.

Specify Seal-O-San on this job. We guarantee you'll like it and your client will be pleased. There'll be no question about what to specify in the future.

See Sweet's Architectural File, Section 13m, or write for product specifications today.

"Seal-O-San and good Basketball are teammates."

Cliff Wells
TULANE

"Speed and sure footing which are so necessary in basketball are insured by Seal-O-San Finish. There is no substitute for Seal-O-San in surfacing your basketball floors."

Huntington Laboratories

Huntington, Indiana
Philadelphia 35, Pa. • Toronto 2, Ontario

exclusively for architects and engineers

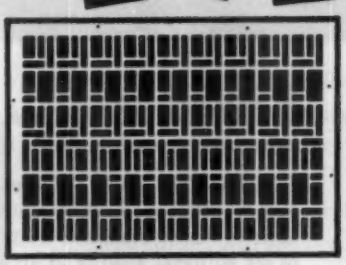
WABASH A. I. A. STANDARD FILING SYSTEM

The Wabash Standard Filing System is the only indexing system designed specifically for architects and engineers. Made in accordance with specifications outlined by A.I.A. document number 172. Classifications and file number designations are printed and arranged under forty-one master headings. Available as a complete indexing system for large offices, or with the forty-one main guides only for smaller offices. Flexibility allows room for file growth. Bonderized steel-tabbed guides are made of tough Nubian Fibre stock. Lasts a lifetime. Write now for complete information and prices.

Wabash Filing Supplies, inc.
380 South Wabash Street · Wabash, Indiana

SIMPLE AS a b c !

a RCHITECTS *specify*
b UILDERS *approve*
C ONTRACTORS *buy*



... Hendrick grilles

Architects, Builders and Contractors all agree you can't beat Hendrick Architectural Grilles for overall attractiveness and functionalism! Hendrick Perforated Metal Grilles not only provide plenty of open area for the free passage of air, but they're easy to install — always lie flat, and can't bend or warp! Over a hundred designs are available, many are exclusive only with Hendrick. Each design can be furnished in a wide range of dimensions, number and size of perforations.

HENDRICK MANUFACTURING COMPANY

Perforated Metal • Perforated Metal Screens • Wedge-Slot Screens • Hendrick Wedge Wire Screens • Architectural Grilles • Milco Open Steel Flooring — Shur-Site Treads • Armorgrids • Hydro Dehasers • Petrochemical Column Internals

New industrial floor for use over concrete
• Tough, durable hardwoods
• Extra thick (25/32 inch)
• Resists wear and abrasion
• Will not powder or dust
• Preserved for long-life
• Less wear and tear on power trucks
• Less damage to tools and parts
• Warmer and less fatiguing to workers
Write for folder and complete data
E. L. Bruce Co., Memphis 1, Tenn.
Bruce
BRUCE
DURA-WOOD BLOCK FLOORS

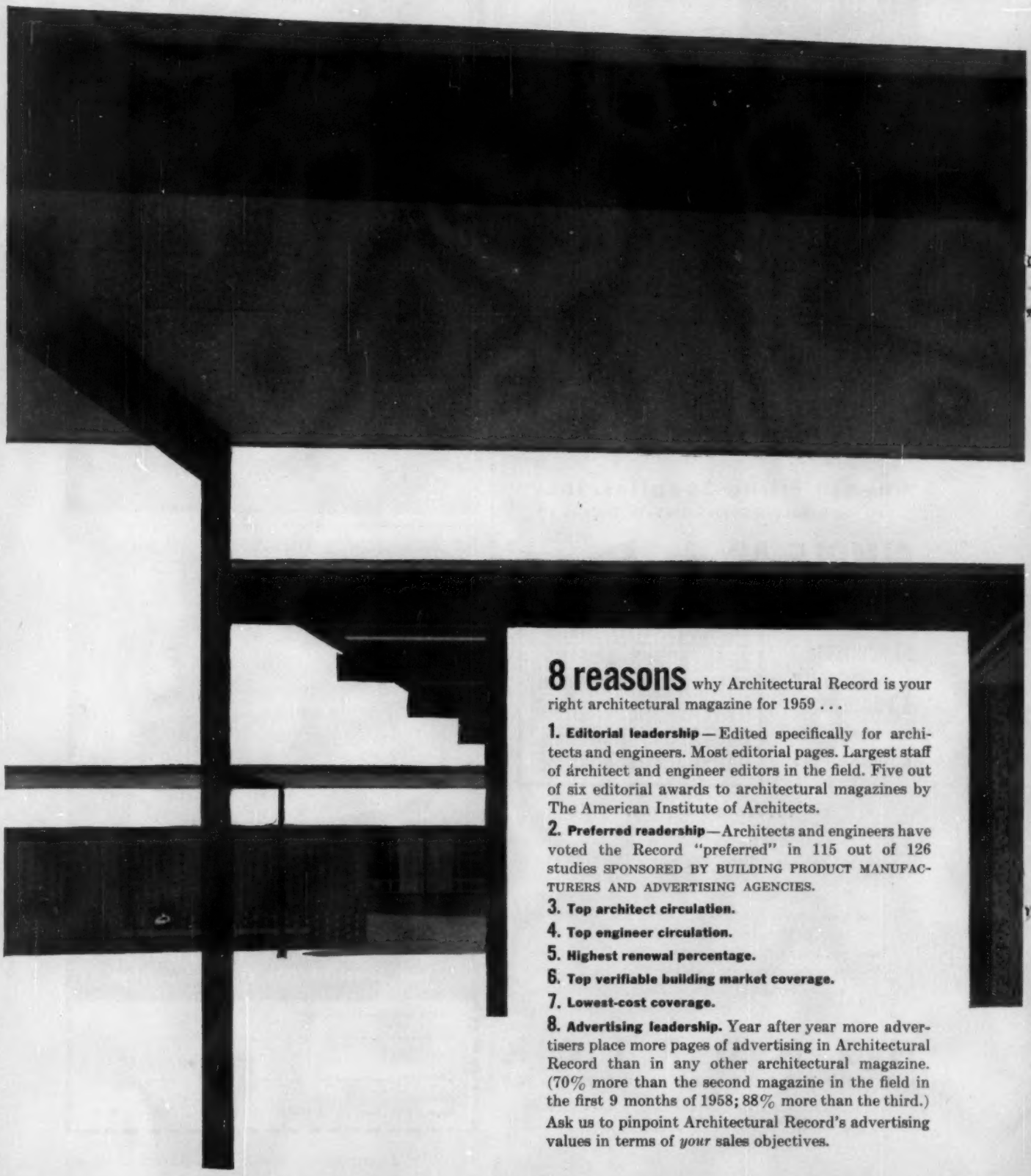
Metal letters

Your choice of identification identifies you. Dignified and authentic styling is assured when SPANJER letters are specified.

Please send free catalog to:
Name_____
Title_____
Company_____
Address_____
Spanjer Bros., Inc. 1160 No. Howe St. Chicago 10, Ill.

Architectural Record offers advertisers...

A NEW ALL-TIME HIGH IN ARCHITECT AND

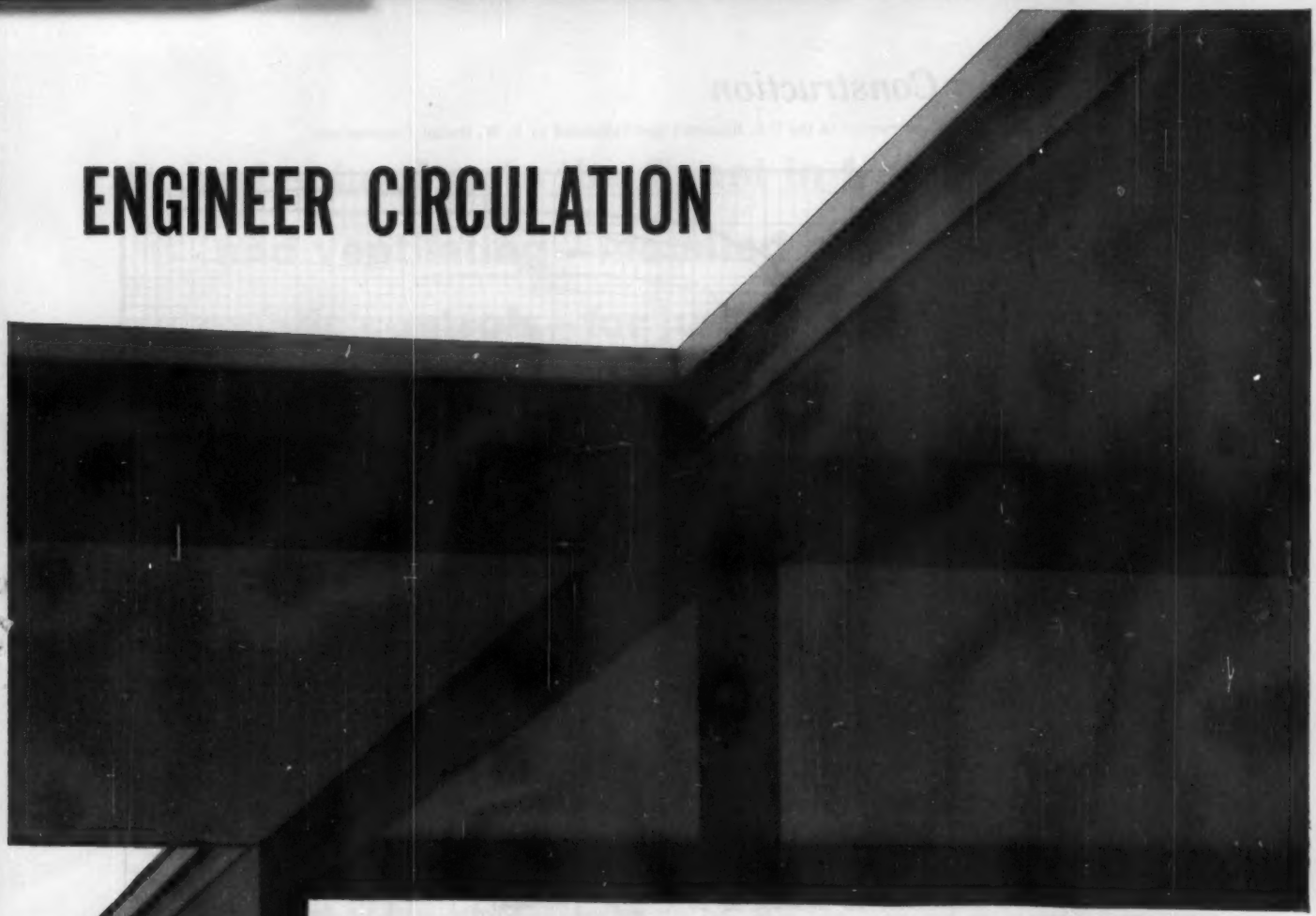


8 reasons why Architectural Record is your right architectural magazine for 1959 . . .

1. **Editorial leadership**—Edited specifically for architects and engineers. Most editorial pages. Largest staff of architect and engineer editors in the field. Five out of six editorial awards to architectural magazines by The American Institute of Architects.
2. **Preferred readership**—Architects and engineers have voted the Record "preferred" in 115 out of 126 studies SPONSORED BY BUILDING PRODUCT MANUFACTURERS AND ADVERTISING AGENCIES.
3. **Top architect circulation.**
4. **Top engineer circulation.**
5. **Highest renewal percentage.**
6. **Top verifiable building market coverage.**
7. **Lowest-cost coverage.**
8. **Advertising leadership.** Year after year more advertisers place more pages of advertising in Architectural Record than in any other architectural magazine. (70% more than the second magazine in the field in the first 9 months of 1958; 88% more than the third.)

Ask us to pinpoint Architectural Record's advertising values in terms of *your* sales objectives.

ENGINEER CIRCULATION



NO OTHER MAGAZINE ever has made available to advertisers so many architect and engineer subscribers seeking information on architecture and the engineering aspects of building.

Significantly, after five straight years of increase, Architectural Record's architect and engineer circulation tops that of the second magazine in its field by the widest margin since 1946.

A record 18,250 architects—and 9,798 engineers—now pay to read Architectural Record. (Source: June 1958 A.B.C. Publisher's Statement)

And most important—these architects and engineers are *verifiably* responsible for planning over 94 per cent of the total dollar volume of all architect-planned nonresidential building and 77 per cent of all architect-planned residential building—facts documented by *Dodge Reports*.

The cost per page per 1,000 of Architectural Record's unequaled architect and engineer circulation? Lowest of the three leading architectural magazines.

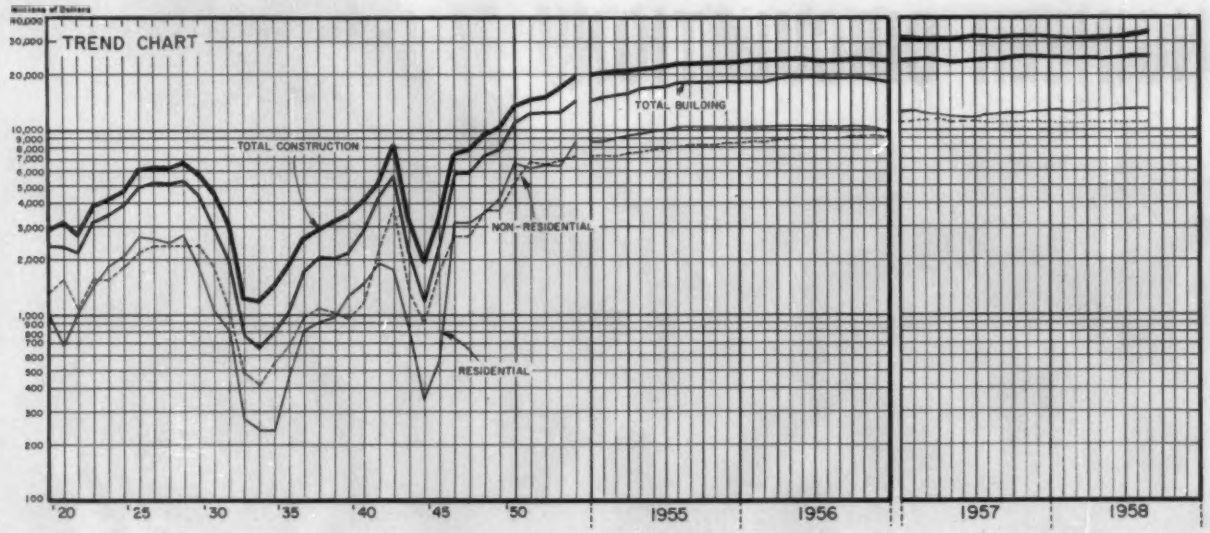
Architectural Record

119 West 40th Street, New York 18, N.Y. OXford 5-3000

"WORKBOOK OF THE ACTIVE ARCHITECT AND ENGINEER"

Current Trends in Construction

As Reflected in Contracts for Future Construction in the U.S. Reported and Tabulated by F. W. Dodge Corporation.



BIGGEST MONTH-TO-MONTH INCREASE OF 1958 RECORDED

The total of $3,215,919,000 in contracts for further construction in the United States reported by F. W. Dodge Corporation in September constituted an increase of 26 per cent over September 1957; it was the greatest increase over the corresponding month last year reported by Dodge so far this year.

The September figures also brought the cumulative total for the first nine months of the year to $26,985,813,000, up seven per cent over the like 1957 period.

By categories, the largest percentage increase in September was registered by heavy engineering contracts: at $863,415,000, they were up 62 per cent from September 1957. Residential building contracts totaled $1,460,270,000, a 27 per cent increase from the 1957 month; nonresidential building, at $892,234,000, showed a three per cent increase.

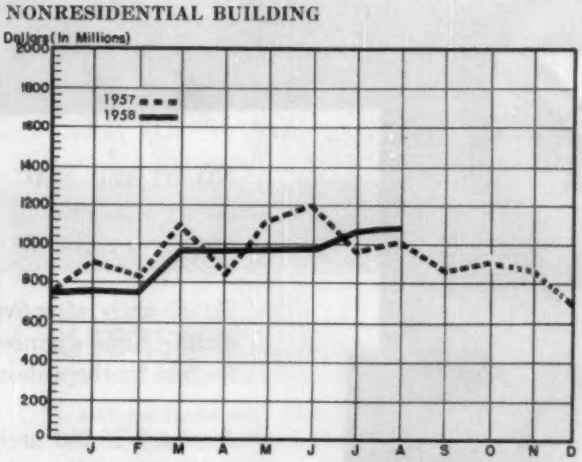
Commenting on the September figures, Dodge vice president and economist Dr. George Cline Smith noted that the September increase of 26 per cent was the greatest increase over the corresponding month of 1957 that has been recorded so far this year. "However," he added, "September marks the third month in a row with an increase of more than 20 per cent over last year, and the fifth consecutive month in which the dollar volume of contracts amounted to more than $3 billion."

Publicly owned projects, Dr. Smith reported, continue to provide the major part of the stimulus, but in September privately owned projects also increased sharply. Public-ownership contracts rose 29 per cent over September 1957 and private projects were up nearly 25 per cent.

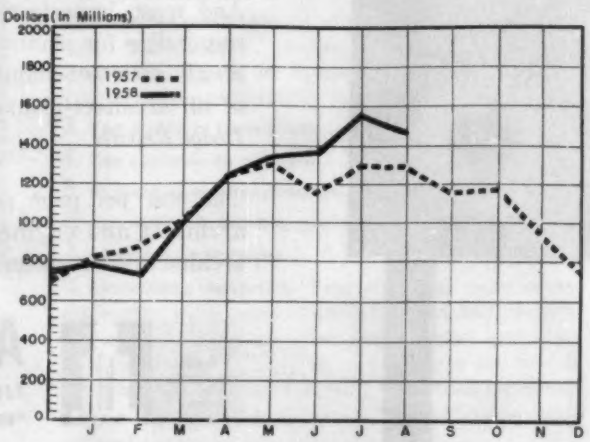
The residential total in September covered 114,642 dwelling units, an increase of 33 per cent over the 1957 month and the largest percentage gain in this category this year. The spread between the percentage gain in dollar volume and in the number of units reflects the trend toward smaller average size units, particularly apartments.

Cumulative totals for the first nine months by categories were: nonresidential—$8,504,854,000, down three per cent; residential—$10,945,492,000, up seven per cent; and heavy engineering—$7,535,467,000, up 21 per cent.

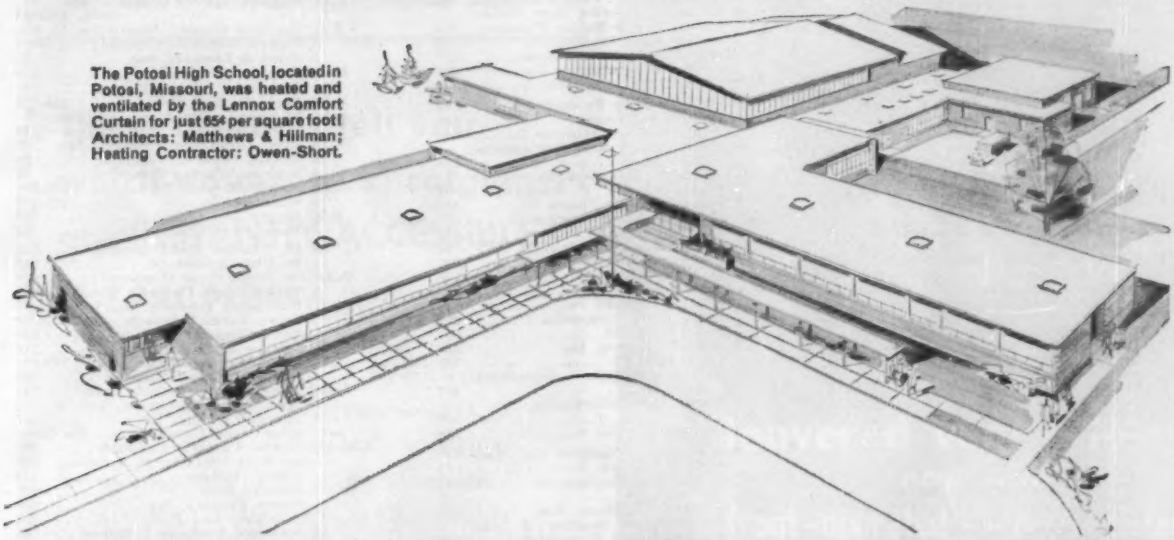
NONRESIDENTIAL BUILDING



RESIDENTIAL BUILDING



Potosi school gets the finest in fresh air heating and ventilating—installed complete with automatic controls—for just 65¢ per square foot!



The Potosi High School, located in Potosi, Missouri, was heated and ventilated by the Lennox Comfort Curtain for just 65¢ per square foot! Architects: Matthews & Hillman; Heating Contractor: Owen-Short.

New Lennox Comfort Curtain System automatically draws in fresh air from outside . . . warms, cleans and circulates air quietly and evenly throughout the classroom!

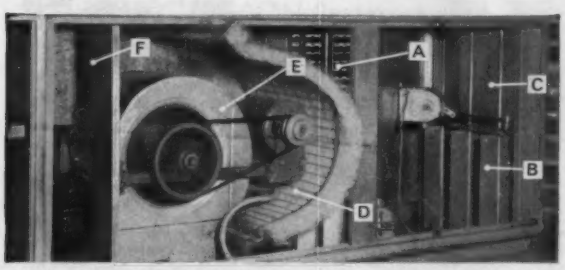
Hard to believe, isn't it?—that after all these years a new and better fresh air heating and ventilating system can be installed *for a fraction of the cost* of systems used previously. Yet it's true! 65¢ per square foot was the *complete* cost of the Lennox Comfort Curtain System in the Potosi, Missouri High School. Including fully automatic controls, ductwork, labor—everything!

Of course, 65¢ per square foot is unusually low, even for the Comfort Curtain. But costs of $1.03 in Indiana, $1.15 in Montana, and $1.12 in South Dakota are *usual and typical* of the amazing savings offered by the Lennox Comfort Curtain.

How is this possible? The Lennox Comfort Curtain System applies to schools the sound, tested principles of warm air heating. It eliminates expensive pipes, boilers and chimneys. Moreover, it saves hundreds of dollars per classroom per year *every* year it is in use. Fuel is consumed only when heat is required, maintenance is amazingly simple and low-cost. Yet—and this is important—the Lennox Comfort Curtain System does a far better job than costlier systems used previously.

It provides a full, even flow of air throughout the entire length of the exposed classroom wall. It is amazingly quiet. And it holds room temperatures to a variance of six-tenths of one degree, circulates air continuously for perfect distribution, introduces a continuous supply of fresh air into the daytime heating cycle, and provides *tons* of needed fresh air cooling without the cost of refrigeration!

Get full information on this new low-cost system of classroom heating and ventilating. Send coupon below for free booklet, today!



Lennox Air Processing Unit introduces fresh air in adjustable volumes (A); transmits warm air (B) from adjacent or remote heating unit; continuously recirculates indoor air (C); filters air clean (D). Lennox' exclusive floating blower (E) and acoustical lining (F) assure a degree of quietness never before achieved.

LENNOX

© 1958 Lennox Industries Inc., Heating and Air Conditioning, founded 1895; Des Moines and Marshalltown, Ia.; Syracuse, N. Y.; Columbus, O.; Decatur, Ga.; Ft. Worth; Los Angeles; Salt Lake City. In Canada: Toronto, Montreal, Calgary, Vancouver, Winnipeg.

Lennox Industries Inc., Dept. AR-87
1701 E. Euclid Ave., Des Moines 5, Iowa

Gentlemen: Please send me your free booklet on the Comfort Curtain system of classroom heating and ventilating.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Index to Advertising

PRE-FILED CATALOGS of the manufacturers listed below are available in the 1958 Sweet's Catalog Files as follows: (A) Architectural File (green), (IC) Industrial Construction File (blue), (LC) Light Construction File (yellow).

A-IC-LC Adam, Frank Electric Co. 53
A Adams & Westlake Company .. 245
Adrian-Peerless, Inc. 389
Aerofin Corporation 130
A Aetna Steel Products Corp. 103
Air Devices, Inc. 341
Airfloor Company of California 269
A Alberene Stone Corporation ... 330
Albro Metal Products Corp. .. 30-31
A All-Steel Equipment, Inc. 72
A-IC Aluminum Company of America 17, 39
Amchem Products, Inc. 97
IC American Air Filter Co., Inc. 324-327
A-LC American Biltrite Rubber Company (Amtico Flooring Division) 157
A-IC American Blower Division . 116-117
A-LC American Brass Company 90-91, 397
IC-A American Bridge Division 270
American Bridge Modular .. 314-315
American District Telegraph Co. 335
American Gas Association 82-83
American Laundry Machinery Co. 372
A-LC American-Saint Gobain 331
A-LC American Telephone & Telegraph Co. 65
A-LC American Welding & Manufacturing Co. 397
A-LC American Window Glass Division 331
A-LC Andersen Corporation 338-339
A Anemostat Corp. of America 284-285
Architectural Record 402-403
A Armco Steel Corporation .. Cover II
A-LC Armstrong Cork Company 26-27
A Azrock Products Division 145

A-IC Balfour, Walter & Co., Inc. .. 396
A-IC Barber-Colman Company 293-294-295
A Barclite Corp. of America 369
A Bastian-Blessing Co. 153
A-IC Bayley Co., William 144
A-LC Bell & Gossett 131
A-LC Bell Telephone System 65
A-IC-LC Bestwall Certain-teed Sales Corp. 322
A-IC Bethlehem Steel Company 80
Bituminous Coal Institute 139
Blank, Frederic & Company, Inc. 73
Boekh, E. H. & Associates 387
A Bogen, David Co. 40
A-IC Borden Metal Products Co. 21
A-IC Bradley Wash Fountain Co. 308
A-LC Bruce, E. L. Co. 401
A Brunswick-Balke-Collender Co. 158-159
A Burgess-Manning Company 395
A-IC Burns & Russell Company 123
A-IC Burt Mfg. Co., The 336
A-IC Byers, A. M. Company 4

A-LC California Redwood Association 305
A-IC Carey, Philip Mfg. Company 136-137
A-LC Carr, Adams & Collier Co. .. 350-351
A-IC Ceco Steel Products Corp. .. 283, 301
A Century Lighting, Inc. 387
A Ceramic Tile Panels Inc., U. S. Ceramic Tile 63, 344B
A Chase Brass & Copper Co. 45
Committee on Steel Pipe Research 162-163
IC Conco Engineering Works 276
A-IC Concrete Reinforcing Steel Institute 110
A Congoleum-Nairn, Inc. 344A
A Connor Engineering Corp. .. 102, 316
A-IC Continental Air Filters, Inc. 348
A-LC Corbin P & F Division 357
A-LC Crane Co. 86-87
A Curtis Companies 120-121
A Curtis Lighting, Inc. 310-311
A Cutler Metal Products Co. 61

Dodge Books ..... 388, 391 to 394
A-IC-LC Douglas Fir Plywood Association 128-129
A-IC-LC Dow Chemical Company, The 374-375
A Dubuque Products, Inc. 161
A-IC Du Kane Corporation 260-261
A Dunham-Bush, Inc. 258
Du Pont, E. I. De Nemours & Co., Inc., Elastomer Chemicals Dept. 309

A Eastern Products Corp. 33
A-IC Ebco Manufacturing Co., The .. 281
A Educators Manufacturing Co. .. 64
Engineered Products Co. 344B
A-IC Executone 268

Fair-Play Scoreboards 386
Federal Seaboard Terra Cotta Corp. 47
A Fenestra Incorporated 306-307
A Fiske, J. W. Architectural Metals, Inc. 386
A-IC Flynn, Michael Manufacturing Company 347
A-LC Formica Corporation 50-51
A-IC Frick Co. 35

Gamewell Company, The 272
A General Bronze Co. 138
A-IC General Electric Co., Air Conditioning 146
General Electric Co., Lamp Division 299
A-LC General Electric Co., Textolite .....3rd Cover
A-IC-LC Gering Products, Inc. 59
Geyser, E. K. Co. 24
Globe Company, The, Products Division 386
A Glynn-Johnson Corp. 96
A Goodrich, B. F. Company 43, 101, 265
A Goodyear, Flooring Dept., Goodyear Tire & Rubber Company 1
A-IC Granco Steel Products Co. 18-19
A-IC Great Lakes Carbon Corp. 377
Griffin Manufacturing Co. 282
A-IC Grinnell Company, Inc. 344B

A Hako Building Products 69
A Hall-Mack Company 100
Hamilton Manufacturing Co. 342
A Harrington & King Perforating Co., Inc. 388
A-IC Haskelite Manufacturing Corp. 248
A-IC Hauserman, E. F. Company 66-67
A Haws Drinking Faucet Co. 356
A-IC Hendrick Manufacturing Co. .. 401
A Hillyard Chemical Co. 126
A Hobart Manufacturing Co. 93
A Hoffman Specialty Mfg. Corp. .. 337
Holophane Company 148
A-LC Homasote Co. 286
A Hope's Windows, Inc. 74
A Horn, A. C. Companies 296
Hotel Cleveland 390
A Hubbell, Harvey, Inc. 268
Huck Mfg. Co. 385
A Hunter Douglas Aluminum Corp. 257
A Huntington Laboratories, Inc. 384, 400
A Hussey Mfg. Co. 368

A Independent Register Co., The 390
Infra Insulation, Inc. 11
A-IC-LC Inland Steel Products Co. 262-263
A Insulrock Co. 323
Integrated Ceilings, Inc. 267
International Heating & Air Conditioning Exposition 400
International Nickel Co., Inc. .. 288
Iron Fireman 297

A Jamison Cold Storage Door Co. 46
A-IC Jennison-Wright Corporation .. 77
A-IC-LC Johns-Manville 54
Johnson Brothers Incorporated 378

A-IC-LC Kaiser Aluminum & Chemical Sales, Inc. 94-95, 274-275
A Kawneer Company 362-363
A-LC Kentile Company 389
A-IC Kewanee Boiler Division 156
Keystone Shower Door Company 261
A-IC Keystone Steel & Wire Co. .. 320-321
Killark Electric Mfg. Co. 380
A Knapp Brothers Mfg. Co. 319
Kohler Co. 34
Koppers Company, Inc., Industrial Sound Control Dept. 150
Koppers Company, Inc., Plastics Division 81

A LCN Closers, Inc. 256-257
Lehigh Portland Cement Co. 246
A-IC Lennox Industries, Inc. 302-303, 405
A-IC-LC Libby Owens Ford Glass Co. 277 to 280
Lighting Dynamics 378
Linen Supply Association of America 92
A-LC Louisville Cement Company ... 89
A Lowell Manufacturing Company 88

A-IC Macomber, Inc. 70
A-IC Mahon, R. C. Company 108-109
A Marble Institute of America, Inc. 395
A-IC Marlo Coil Company 343
Masland Duraleather Co. 151
A-IC McKinley Iron Works 407
A McPhilben Lighting Co. 384
A Meadows, Inc., W. R. 318
A Medart, Fred Products Co., Inc. 111
Meterflo Dispensers 389
Midget Louver Company 395
Miller Sliding Glass Door Co., Inc. 298
Mitchell Lighting Company ... 304
Modu-wall, Inc. 164
A-IC Montgomery Elevator Co. 152
A Moore, P. O. Inc. 395
A-LC Mueller Brass Co. 41
A-LC Mutschler Brothers Company .. 289

A-IC-LC National Gypsum Company ... 340
A National Terrazzo and Mosaic Assoc. 84
National Supply Co. 118
A Neo-Ray Products, Inc. 134
Nesbitt, John J. Inc. 332-333
A Norman Products Co. 312
North American Extrusion ... 164
A Norton Door Closers 76
A-LC Nudor Manufacturing Corp. .. 344
Oasis Water Coolers 281
A Otis Elevator Company 35
A Overly Manufacturing Corp. .. 254
A-IC-LC Owens-Corning Fiberglas Corp. 154-155

A-IC Peelle Company 42
A-IC Peerless Electric Company 114
A Petro 297
Pioneer Division, The Flintkote Co. 334
A-IC Pittsburgh Corning Corp. 361
Pittsburgh-Des Moines Steel Co. 149
A-LC Pittsburgh Plate Glass Co. 78-79, 382-383
A-IC Portland Cement Association 58, 252
A Powers Regulator Company ... 98-99
A Pratt & Lambert, Inc. 75
A-LC Precision Parts Corp. 378
Red Cedar Shingle Bureau 381
A-LC Republic Steel Corp. 124-125
A-LC Richmond Plumbing Fixtures Division Rheem Mfg. Co. 57
A Rilco Laminated Products, Inc. 365
A Rixson, Oscar C. Company 58
A Robbins Flooring Company 52
A-LC Roddis Plywood Corp. 358-359
A Rolscreen Co. 271-273
A-IC Rotary Lift Company 2-3
A Rowe Manufacturing Co. 122
A St. Charles Manufacturing Co. 373
St. Clair Rubber Co. 389
A-LC St. Regis Paper Company 329
A Safway Steel Products, Inc. 328
A-IC Sanymetal Products Co., Inc. .. 49
Saran Yarns Company 22-23
Sareo Company, Inc. 349
A Schlage Lock Company 115
A-IC Schundler, F. E. & Co., Inc. . 370-371
A Seamloc Carpet Company 300
A-IC Shlagro Steel Products Corp. ... 380
Sico Manufacturing Co., Inc ... 152
A Silvray Lighting, Inc. 107
A-IC Sloan Valve Company .... 4th Cover
A-IC-LC Sonoco Products Company 264
Southern Equipment Company 160
Spang-Chalsant 118
A Spanjer Bros., Inc. 401
Sperti Faraday, Inc. 250
Staedtler, Inc. J. S. 142
A Standard Products Company .. 85
Stern, Chester B. Inc. 354-355
A-LC Sterling, John Corporation 360
A-IC Stran-Steel Corporation 345
A Structural Slate Co. 376
A-LC Stylon Corporation 260
A Summitville Tiles, Inc. 29
A-IC Sunbeam Lighting Company .. 37
Sun-Lite Manufacturing Co. 396
Superior Standardline Corp. 112-113
Sweet's Catalog Service 407

A-IC Taylor, Halsey W. Co. 292
Teco Plywood Company 71
A-IC Temprite Products Corp. 385
A Thomas Industries, Inc. 408
Thompson Electric Co. 48
Thonet Industries, Inc. 135
A-LC Thrush, H. A. & Company 68
A-IC Timber Structures, Inc. 398-399
Touch-Plate Mfg. Corp. 379
A-IC Troy Laundry Machinery Division American Machine & Metals, Inc. 44
Underwood Corp. 255
A United States Ceramic Tile Co. 63, 344B
A United States Gypsum 290-291
A-LC United States Plywood Corp. .. 7
A-IC United States Steel Corporation (subs.) 132-133, 140-141, 147, 270, 314-315
A Unit Structures, Inc. 259
A Universal Atlas Cement Co. 147
A Uvalde Rock Asphalt Company 145
A-IC Upco Company 386
A Van-Packer Company 334
A-IC Van Range, John Co. 364
A Virginia Metal Products, Inc. 104-105
A-IC-LC Visking Company 106
A Vonnegut Hardware Co. 62
Wabash Filing Supplies, Inc. .. 401
A-LC Ware Laboratories, Inc. 8
Webster, Warren & Company .. 353
Weirton Steel Company 119
A Weis Mfg. Co., Inc. Henry 143
A West Chemical Products, Inc. .. 127
A-IC-LC West Coast Lumbermen's Association 317
Western Pine Association 313
A-IC Westinghouse Electric Corporation, Water Cooler 366-367
A-IC- Williams Equipment & Supply Co. 378, 387
Winpower Mfg. Co. 352
A Zero Weather Stripping Co., Inc. 16
A-IC-LC Zonolite Company 397

NEW YORK—H. Judd Payne, Publishing Director; Robert F. Marshall, General Manager; Tom Tredwell, Advertising Mgr.; Blake Hughes, Promotion & Research Mgr.; Richard C. Crabtree, Sales Service Mgr., Benton B. Orwig, Director of New Business Development; Terry Wunk, Advertising Production Mgr.; Harry M. Horn, Jr.; Michael J. Davin, 119 W. 40 St.; BOSTON—Harry M. Horn, Jr., 855 Park Square Bldg.; BUFFALO—Benton B. Orwig, 70 Niagara St.; CHICAGO—Claude B. Riemersma, Regional Sales Mgr.; Robert T. Franden, David K. Bortz, James A. Anderson, Charles L. Reed, Jr., 919 N. Michigan Ave.; CLEVELAND—John C. Jackson, Regional Sales Mgr.; Joseph F. Palmer, Louis F. Kutscher, 521 Hanna Bldg.; LOS ANGELES—Bob Wettstein, 672 S. Lafayette Park Pl.; MIAMI—Benton B. Orwig, 802 N. W. First St.; PHILADELPHIA—Tom Tredwell, James E. Boddorf, 1321 Arch St.; PITTSBURGH—John C. Jackson, 411 Seventh Ave.; PORTLAND—Bob Wettstein, 921 S. W. Washington St.; ST. LOUIS—Claude B. Riemersma, John I. Howell, 3842 W. Pine Blvd.; SAN FRANCISCO—Bob Wettstein, 355 Stockton St.

A-IC-LC

These symbols tell you which advertisers' catalogs are INSTANTLY ACCESSIBLE in your office

The great majority of *Architectural Record* advertisers employ Sweet's Catalog Service to maintain their catalogs continuously in the offices of qualified architects, engineers, and building contractors.

By doing so, these manufacturers make it easier than is otherwise possible for you always to have instant access to further information about their products or services.

The above symbols* are included in the facing Advertisers' Index as a quick guide to which advertisers' catalogs are in *your* Sweet's File — Classified by product type, indexed, up-to-date, and always ready for use whenever you want them.

Sweet's Catalog Service
Division — F. W. Dodge Corporation
119 West 40th Street
New York 18, N. Y.

*A (Architectural File) IC (Industrial Construction File) LC (Light Construction File)

another mckinley first . . .

louvered vent bricks
now with
front-operated sliding registers

superior features:

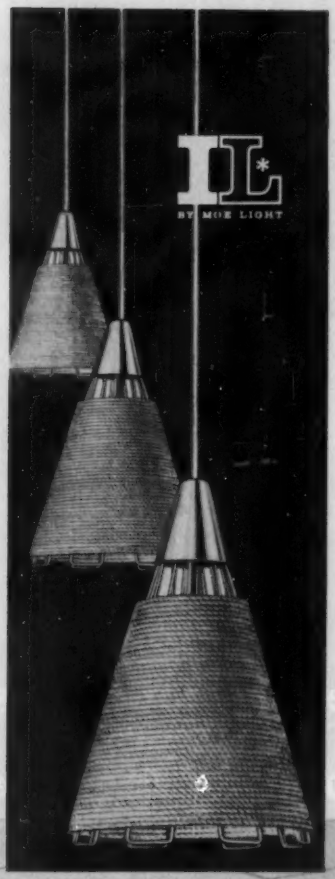
1. front operated sliding register
2. register locks in open or sealed position with allen head wrench
3. neat appearance—register and operating nut concealed behind louvers
4. modern design—all louvers extend evenly
5. exact modular sizes for brick and tile
6. heavy load-bearing vent bricks and ducts
7. bronze screen thermatically welded in rigid frame
8. water and condensation stop
9. available in 3 metals:
   cast iron:— plain—galvanized
   aluminum:— satin-finished—alumilited
   bronze:— satin-finished—polished
10. designed to last for the life of the building

see our catalogs in sweets files:
A—6i/Mc, 6e/Mc, 13b/Mc . . . IC—3e/Mc, 3h/Mc.

mckinley iron works
p. o. box 790 fort worth, texas

Send complete specification:
☐ ABRASIVE PRODUCTS ☐ CONSTRUCTION CASTINGS

name_____
firm_____
address_____
city_____ state_____



Today's trend: distinctive lighting fixtures... and more of them

Far More Decorative! More Practical . . .
Gives Better Control of Light Levels

Huge, cumbersome, unsightly lighting fixtures are fast becoming unmourned relics of the past. Through the multiple use of highly decorative units for general, local and accent lighting, architects and decorators are achieving complete coordination between exterior and interior design. They are free to unify or diversify the visual effect or "feeling" of the architectural whole.

And the *practical* advantages equal the esthetic:

- *Virtually EXACT control of light levels at every point in any area.*
- *Complete harmony of design among all fixtures whether for accent, local or general lighting.*
- *Simple, relatively inexpensive change of decorative values when desired.*
- *Easier maintenance.*

These and other "Inspiration-Lighting" ideas by MOE Light are embodied in a helpful catalog, "Lighting for Commerical Installations"—yours with the compliments of MOE Light if requested on your professional letterhead.

THOMAS INDUSTRIES INC.
LIGHTING FIXTURE DIVISION
Executive Office: 410 S. Third St., Louisville 2, Kentucky, Dept. AR-11
Leaders In Creative Lighting

* Inspiration-Lighting by MOE Light for Distinctive Commercial Applications

Communion rail and high altar in Florient Marble pattern; pulpit and reredos in Maple and Cherry Woodgrain patterns.

General Electric Textolite® used widely in new church — wins praise of tradition-conscious pastor

Long-lived Textolite laminated surfacing gives parishioners the richness of marble . . . the warmth of fine wood . . . at far lower initial and maintenance costs

"We wanted beauty and dignity in our new church," says Rev. V. J. Ranly, pastor of modern St. Gaspar Church in Rome City, Ind. "But we had to be practical, too. After thorough investigation, we chose General Electric Textolite to surface the altars, reredos, communion rail, and other interior furnishings. The idea has proved so successful that another church, in nearby Ft. Wayne, is using Textolite to remodel its interior."

St. Gaspar's uses over 1400 square feet of Textolite, in three patterns: Florient Marble, Cherry Woodgrain, and Maple Woodgrain. All are practically indistinguishable in appearance from the real woods and marbles—weigh far less, and are much easier to install. In addition, they clean with a swish, resist scratches and scuffs, stay new-looking for years.

In your next liturgical commission, consider General Electric Textolite for interior surfaces. Choose from 70 attractive colors and patterns, shown in Sweet's Architectural File, Catalog 14a/Ge. If you have any questions on material or color specifications, write: *Laminated Products Dept., Section AR-811, General Electric Company, Coshocton, Ohio.*

Side altars are also surfaced with easy-to-install Textolite laminated plastic in Florient Marble pattern. Church designed by Ness Zurbuch, Ft. Wayne, Indiana.

Textolite®
LAMINATED SURFACING
GENERAL ELECTRIC

THE VAST MAJORITY OF THE NATION'S FINE BUILDINGS ARE SLOAN EQUIPPED

ROBERT AND COMPANY ASSOCIATES, *architects and engineers*
ROBERT E. McKEE GENERAL CONTRACTOR, INC., *general contractor*
J. S. BROWN—E. F. OLDS PLUMBING & HEATING CORP., *plumbing contractor*
NOLAND COMPANY, INC., *plumbing wholesaler*
AMERICAN RADIATOR & STANDARD SANITARY CORP., *fixture manufacturer*

NEW FAME FOR 66-YEAR-OLD NAME

• A few months ago this new $25-million hospital was opened and assigned the honor of carrying forward the proud name, GRADY, its predecessor founded in 1892. This 21-story structure occupies an entire city block in downtown Atlanta, Ga. It contains 16 operating rooms, 10 delivery rooms and 22 emergency rooms. Facilities for more than 1,000 bed patients and accommodations for 150 resident physicians and interns are provided. Its out-patient clinic will have an ultimate capacity of 4,000 patients per day. Food service is provided by three cafeterias, and a kitchen capable of preparing 6,000 meals per day. In addition to instruction conducted by the Emory University School of Medicine, the Grady contains a School of Nursing, and the largest schools of Medical Technology and X-ray Technology in the Southeast. As are thousands of other expertly planned and skillfully erected buildings, the new Grady Memorial Hospital is equipped with SLOAN *Flush* VALVES, most favored of all for more than a half century.

SLOAN *Flush* VALVES

FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY

SLOAN VALVE COMPANY • CHICAGO • ILLINOIS

Another achievement in efficiency, endurance and economy is the SLOAN *Act-O-Matic* SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects and Engineers specify, and Wholesalers and Master Plumbers recommend the *Act-O-Matic*—the better shower head for better bathing.

Write for completely descriptive catalog